GATES LEARJET CORPORATION

maintenance manual

CHAPTER

57

WINGS

RECORD OF TEMPORARY REVISIONS

Rev. No.	Date Inserted	Date Removed	Page Number	Rev. No.	Date Inserted	Date Removed	Page Number
57-1	Feb 1/80	Apr 30/82 Rev #14	57-00-00 Pg 1				
57-2	Feb 1/80	Apr 30/82 Rev #14	57-20-00 Pg 4				
57-3	Feb 1/80	Apr 30/82 Rev #14	57-30-02 Pg 201				
57-4	Feb 1/80	Apr 30/82 Rev #14	57-30-02 Pg 204				

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57-Title		
57-Record of Temp. Revisions		Apr 30/82
*57-List of Effective Pages	1	Jul 5/83
*57-Contents	1	Jul 5/83
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*57-00-00	2	Jul 5/83
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WING - DESCRIPTION AND OPERATION

1. Description

A. The single-unit fully cantilever-constructed wing consists of the leading edge, the wing box section, ailerons, flaps, spoilers and tip tanks.

B. The multicellular-type wing structure is formed by 8 spars and 15 ribs. A tapered top skin and a uniform bottom skin cover the wing structure.

C. The integral wing fuel tanks are full span except for the main gear wheel well areas, the wing leading edges and the wing trailing edge.

D. Wing sweepback at the 25% chord is 13°.

E. The wing is attached to the fuselage by eight attach fittings which are secured by bolts.

F. Conventional type ailerons are attached to the rear spar at three hinge points.

(1) The aileron brush seal is installed between the aileron and wing. The brush seal is a brush material mounted on a strip of aluminum. The outboard and inboard brush seals slide into a mount (channel) which is riveted in place. On Aircraft 25-290 and Subsequent and prior aircraft equipped with AAK 79-10 "Installation of Wing Fence, Stall Strips, and Boundary Layer Energizers," a segmented brush seal is riveted to the wing aileron closure structure.

(2) The brush seals are installed to maintain proper airflow over the wing and aileron. The brush seals are lubricated with grease to aid the sealing effect and to protect the painted surface. (Refer to Chapter 12 for lubrication intervals.)

G. The single slotted flaps are attached to the inboard rear spar by tracks, rollers, and hinges.

H. The spoilers are installed in the wing upper surface immediately forward of the flaps and are hinged to the wing rear spar at two points.

I. The tip tanks are secured to the wing by two attach fittings, one located aft of spar 1 and one located forward of spar 7.

J. Access panels located on the wing lower skin provide access to fuel and fuel vent plumbing, electrical wiring, and flight control components.

K. Attach fittings on the wing are for the main landing gear strut, tip tank and flight controls.

L. On Aircraft 25-061, 25-070 thru 25-289 not equipped with AAK 79-10 "Installation of Wing Fences, Stall Strips, and Boundary Layer Energizers" or AAK 82-8 "Handling Qualities Improvement," two rows of vortex generators are bonded to the wing upper surface forward of the ailerons. Care should be exercised when performing maintenance in the area of the vortex generators to avoid damage or loosening of a vortex generator.

NOTE: No more than three (3) vortex generators (any location) may be missing from one surface (six total, both wings). Missing vortex generators should be replaced as soon as possible.

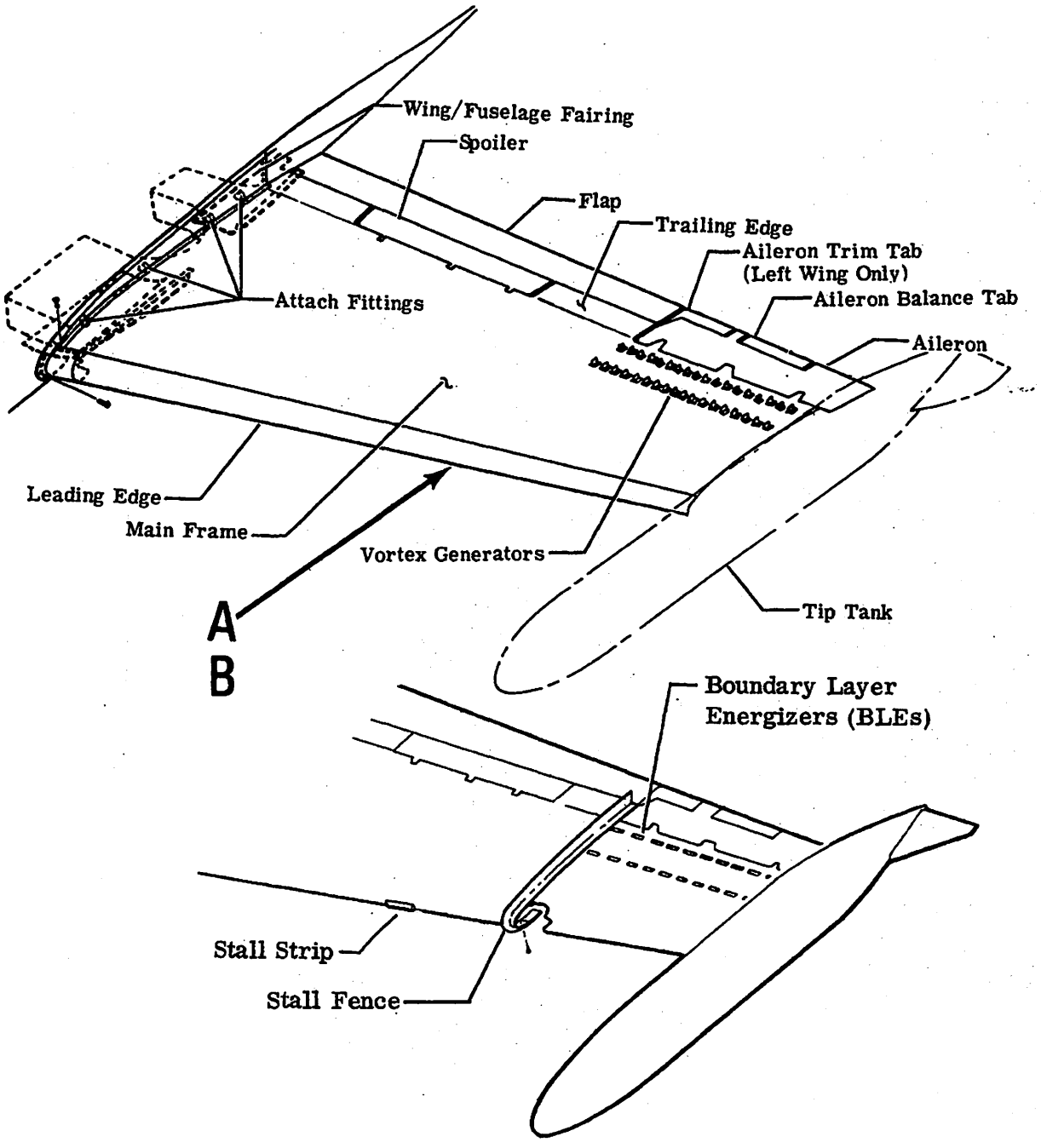
M. On Aircraft 25-290 and Subsequent and prior aircraft equipped with AAK 79-10 "Installation of Wing Fences, Stall Strips, and Boundary Layer Energizers" or AAK 82-8 "Handling Qualities Improvement," two rows of boundary layer energizers (BLE's) are bonded to the wing upper surface between WS 125 and the tip tank and forward of the ailerons.

N. On Aircraft 25-290 and Subsequent and prior aircraft equipped with AAK 79-10 "Installation of Wing Fences, Stall Strips, and Boundary Layer Energizers" or AAK 82-8 "Handling Qualities Improvement," a stall fence is installed on each wing at WS 125.

O. On Aircraft 25-290 and Subsequent and prior aircraft equipped with AAK 79-10 "Installation of Wing Fences, Stall Strips, and Boundary Layer Energizers," a stall strip is installed on each wing leading edge inboard of WS 90. The stall strip location is critical to maintain desired flight characteristics. Should a stall strip become dislodged, installation of a replacement stall strip must be accomplished at a Gates Learjet Factory Authorized Repair Facility.

P. On Aircraft 25-061, 25-070 thru 25-289 equipped with AAK 82-8 "Handling Qualities Improvement," a stall strip is installed on each wing leading edge from WS 75 outboard to the tip tank. The stall strip location is critical to maintain desired flight characteristics. Should a stall strip become dislodged, installation of a replacement stall strip must be accomplished at Gates Learjet Authorized Repair Facility.

CAUTION: DO NOT PAINT STALL STRIPS. USE CARE WHEN CLEANING/POLISHING STALL STRIPS NOT TO ROUND OFF CORNERS OF TRIANGLE SHAPES.

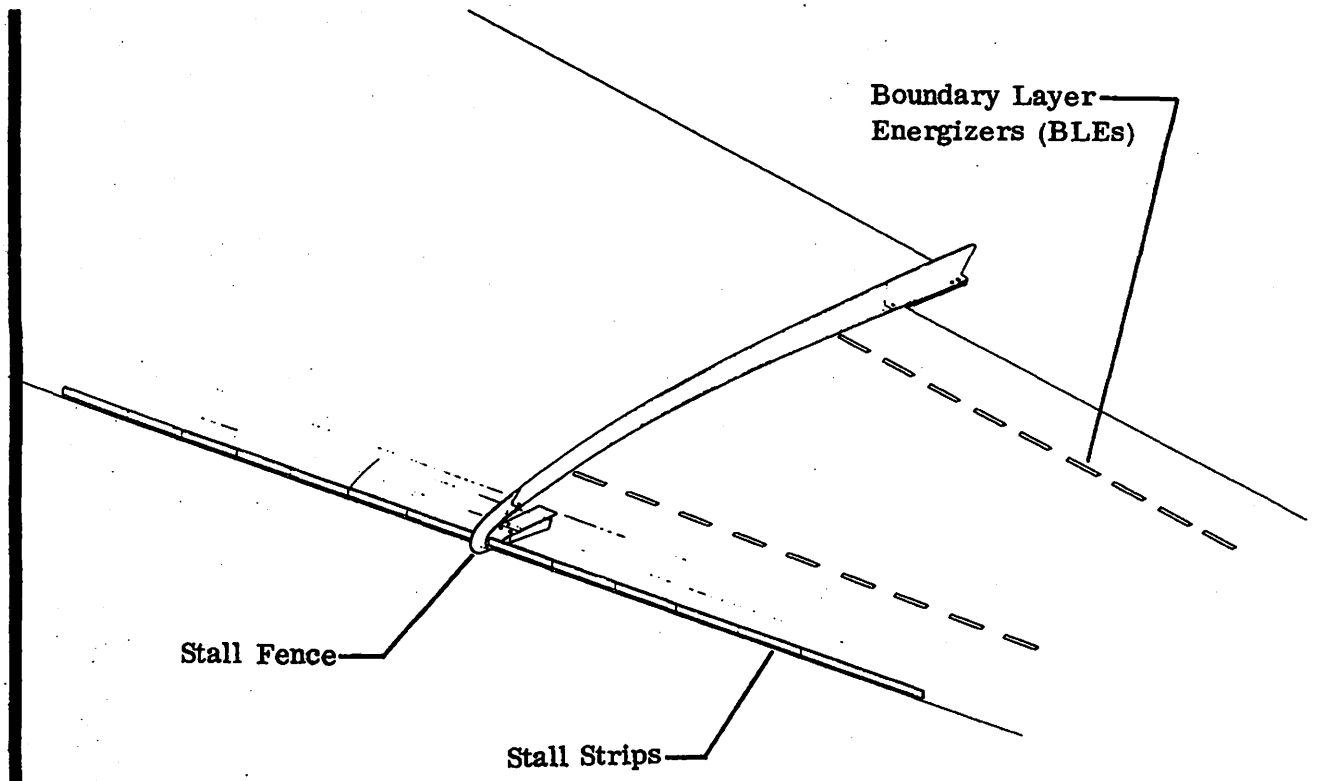


Effective on Aircraft 25-290 and Subsequent and Prior Aircraft equipped with AAK 79-10 "Installation of Wing Fences, Stall Strips, and Boundary Layer Energizers."

Detail A

Wing - General

Figure 1 (Sheet 1 of 2)



25-061, 25-070 thru 25-289 equipped with AAK 82-8 "Handling Qualities Improvement"

Detail B

Wing - General
Figure 1 (Sheet 2 of 2)

WING - MAINTENANCE PRACTICES

1. Tools and Equipment

NAME	NUMBER	MANUFACTURER	USE
Spreader Bar	14081	Gates Learjet Corp.	
Wing Mating Dolly	2320000	Gates Learjet Corp.	
Wing Transfer Dolly	2320001	Gates Learjet Corp.	
Engine Pylon Jacks			
Pylon Jack Pads			
Nose Jack			
Nose Jack Pad	2370102-4		
Drip Pans			
Wing Protective Cover			
Drive Pins	(Fabricate as required)		
Centering Pins	(Fabricate from old bolts)		
9X Rivet Gun			
Flush Set			

2. Removal/Installation (See figure 201.)

A. Remove Wing

(1) Defuel aircraft and purge fuel tanks. (Refer to Chapter 12.)

(2) Install jack pads and jacks under engine pylons. Position jacks to obtain maximum clearance between the trailing edge of the wing and jacks.

(3) Install jack pad and jack under nose of aircraft.

(4) Raise aircraft until main landing gear tires are clear of the ground.

(5) Remove wing flaps from aircraft. (Refer to Chapter 27.)

(6) Retract spoilers.

(7) Pressurize hydraulic system and unlock main landing gear down locks.

(8) Relieve pressure from hydraulic system and drain reservoir.

(9) Disconnect and remove batteries from aircraft.

(10) Lower inboard main landing gear wheel well doors.

(11) Install protective cover on top inboard side of wing and wing leading edge.

(12) Remove wing fillet fairings on top of wing and access doors under wing and fuselage. Tag parts as they are removed and retain for reinstallation.

(13) Drill out rivets from trailing edge of wing to fuselage fairing inboard of wing flaps (see figure 201). Do not remove rivets from fairing attached to wing.

(14) Disconnect ADF antenna, if installed under fuselage, and stow.

(15) Disconnect wing-to-fuselage electrical connectors above each landing gear wheel well. Tag connectors.

(16) Disconnect plumbing fittings and electrical connectors as required at both ends of keel beam. Use drip pans to catch residual fuel and hydraulic fluid from plumbing. Cap fittings and connectors.

(17) Disconnect and cap plumbing fittings and electrical connectors as required at both sides of keel beam.

(18) Disconnect and cap hydraulic fittings on top of the wing between the two center wing attach fittings. Reposition fittings to clear wing.

(19) Disconnect aileron cable turnbuckles at keel beam and forward of flaps. Remove pulleys or cable guard pins as required and pull cables through wing. Stow cables.

NOTE: Attach string to flight control cable terminals before pulling cables through structure. Pull cables clear of keel beam and secure string to structure. When reinstalling cables use these strings as a guide to prevent misrouting cables.

(20) Remove seats and divan from aircraft.

(21) Remove cabin floorboards.

(22) Remove interior arm rests on both sides of cabin to allow access to upper wing torsion link bolts.

(23) Remove liner at lower right side of baggage compartment and disconnect shielded connectors for flux valve.

(24) Disconnect elevator control cable turnbuckles. Remove cable fairleads and pressure seals at frame 15. Pull cables through frame 15 into cabin. Stow cables.

(25) Disconnect rudder control cable turnbuckles aft of pilot's pedestal and pull cables through to clear keel beam. Stow cables.

CAUTION: THROTTLE CABLE CAN BE DAMAGED WHEN IMPROPERLY HANDLED OR STORED. REFER TO CHAPTER 76 FOR INSTRUCTIONS ON HANDLING AND STORAGE OF ENGINE THROTTLE CABLES.

(26) Disconnect engine throttle cables and remove from aircraft. Store cables. (Refer to Chapter 76.)

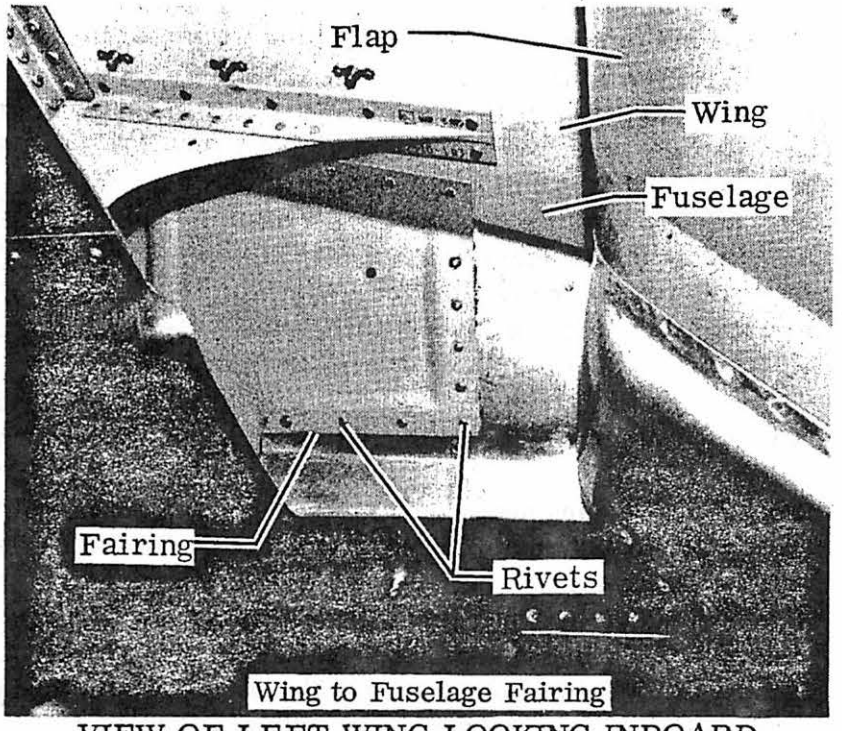
(27) Remove left tip tank tailcone and fin.

NOTE: Remove the right tip tank tailcone and fin when removing the wing from the left side of fuselage.

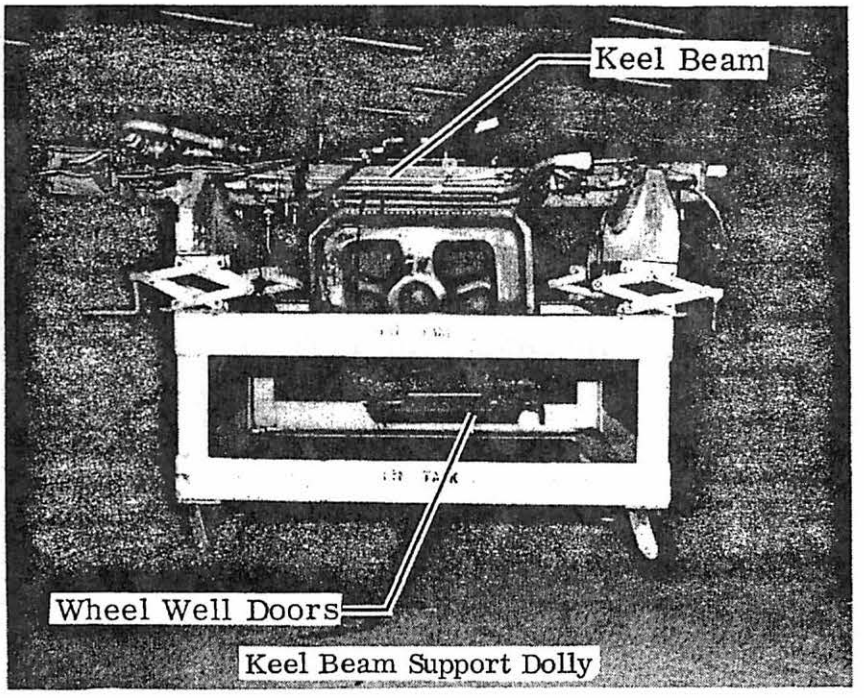
(28) Disconnect wing leading edge anti-ice hoses and temperature sensor wiring at inboard leading edge of wing.

(29) Support keel beam and remove four bolts at each end of keel beam.
(30) Check that all plumbing and electrical wiring is disconnected between keel beam and wing.
(31) Pull forward end of keel beam down. It is necessary for the keel beam to be moved forward during removal to allow clearance for two vent hoses at aft end of keel beam.
(32) Remove keel beam from aircraft and place on dolly (see figure 201).
(33) Raise main landing gears sufficiently to clear wing mating dolly and tie landing gears in place with ropes.
(34) Center mating dolly under wing and raise dolly until wing is supported. Install safety pins in mating dolly (see figure 201).
(35) Gain access to the upper wing torsion link bolts in both sides of cabin. Remove insulation and sealer from bolts and castellated nuts (see figure 201).
(36) Remove cotter pins and remove nuts from torsion link bolts.
(37) Use drive pin and remove upper wing torsion link bolts from forward wing attach fittings.
(38) Remove nuts from six remaining wing attach fitting bolts. Use drive pin and remove bolts (see figure 201).
(39) Remove safety pins from mating dolly and slowly lower wing. Check that all lines and wiring are disconnected and clear of obstructions.
(40) Lower left wing as low as the mating dolly will permit.
(41) Raise fuselage with engine pylon jacks and nose jack sufficiently to allow left tip tank to clear fuselage.
(42) Roll mating dolly to the right of the fuselage until left tip tank clears the fuselage. Use care to prevent dents and scratches to wing or tip tank.
(43) After wing is removed from fuselage, install spreader bar between keel beam mounting pads (see figure 201).

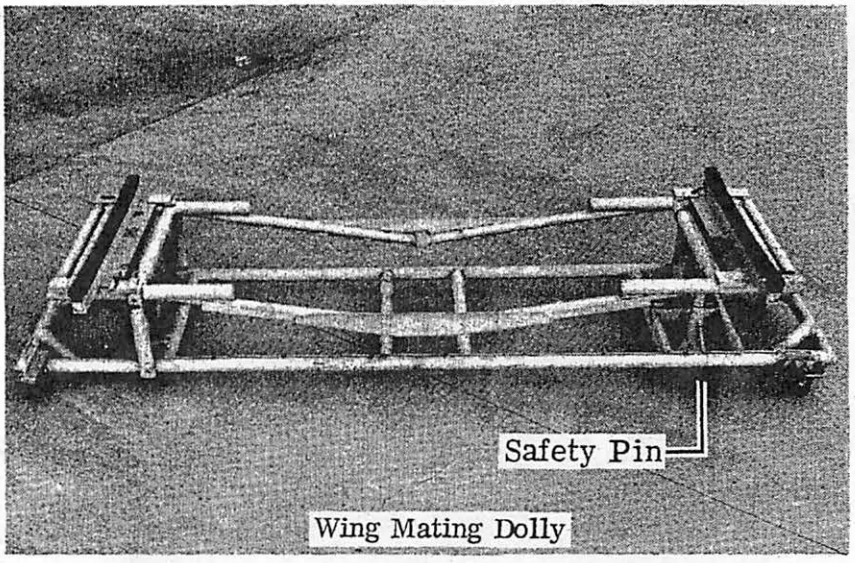
CAUTION: THE SPREADER BAR MUST REMAIN INSTALLED AT ALL TIMES WHEN WING IS REMOVED FROM THE AIRPLANE. THIS IS TO PREVENT STRUCTURAL DAMAGE TO FUSELAGE.

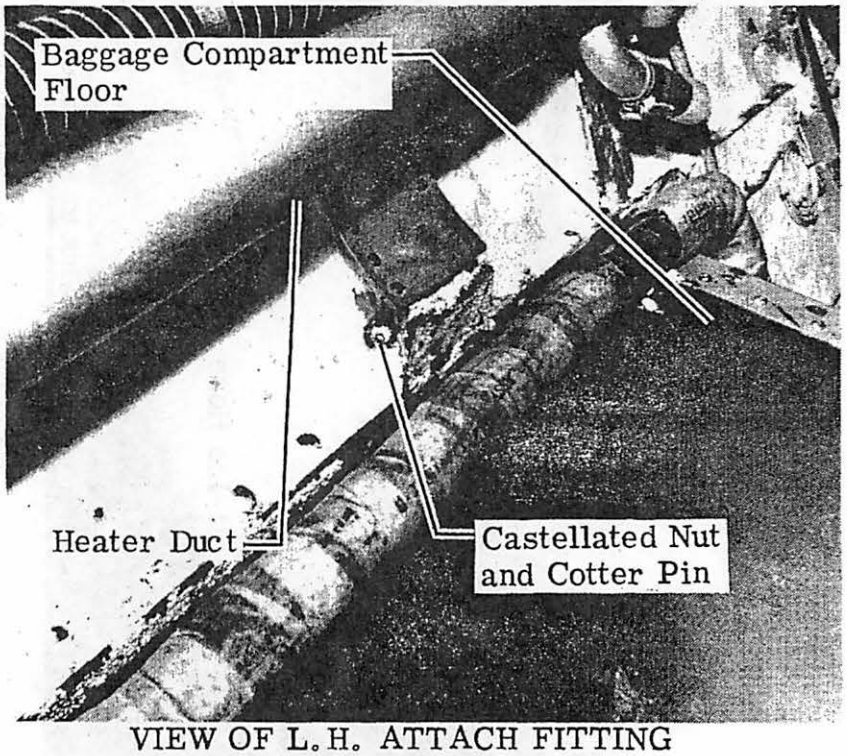


VIEW OF LEFT WING LOOKING INBOARD



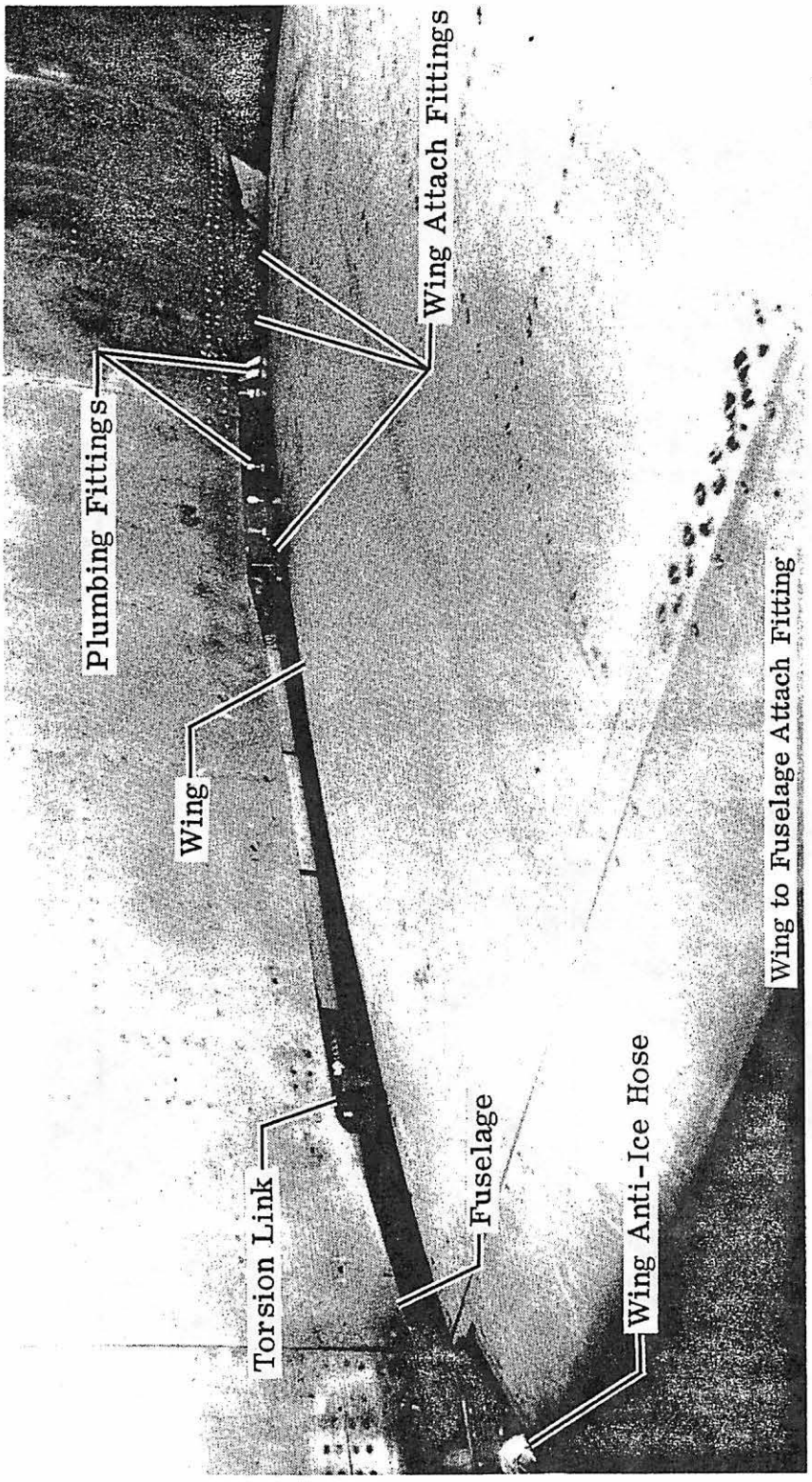
Wing Removal and Installation
Figure 201 (Sheet 1 of 4)





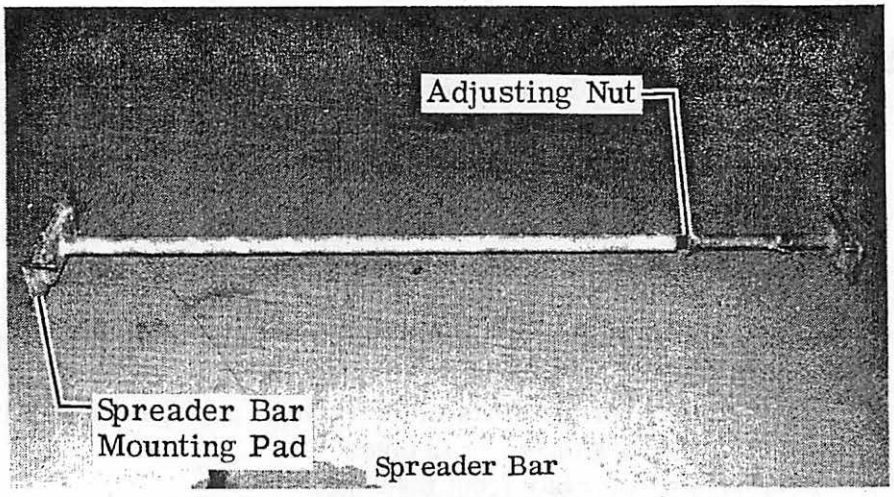
VIEW OF L.H. ATTACH FITTING
IN CABIN LOOKING FORWARD

Wing Removal and Installation
Figure 201 (Sheet 2 of 4)

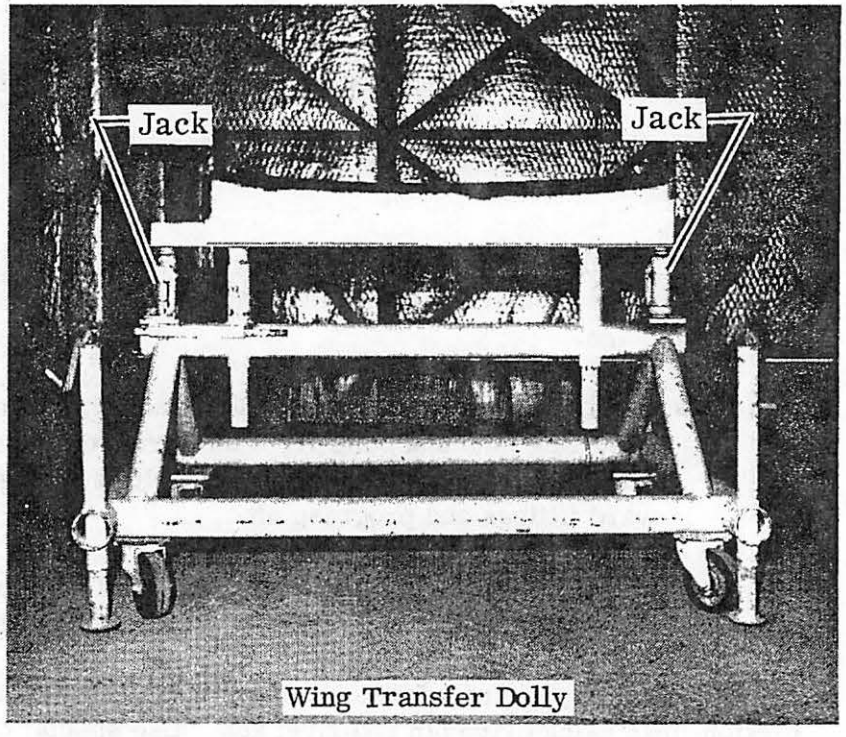


VIEW OF L. H. WING ATTACH
FITTINGS LOOKING AFT

Wing Removal and Installation
Figure 201 (Sheet 3 of 4)



(Install spreader bar between keel beam mounting pads on fuselage)



Wing Removal and Installation
Figure 201 (Sheet 4 of 4)

B. Install Wing

NOTE: ● Prior to installing wing, the wing attach fittings should be inspected, a dye penetrant check performed and then treated with zinc chromate primer. The wing attach fitting bushings should be taped to prevent primer from entering bushings.

● Apply sealant and foam insulation in areas as required to replace sealant and foam previously removed.

(1) Install front lower attach fitting torsion links using new bolts, nuts, and washers. Torque nuts 450 to 500 inch-pounds.
(2) Position both torsion links in the vertical position and assure that the attach fitting bushings are in place.
(3) Remove spreader bar from fuselage.
(4) Using wing mating dolly, move wing under fuselage in the reverse order in which wing was removed. Use special care not to damage wing or fuselage.
(5) After wing is positioned under fuselage, raise wing as high as wing mating dolly will permit. Install safety pins in dolly.
(6) Slowly lower fuselage on wing by lowering the two pylon jacks and nose jack. Use special precaution that cables and plumbing are clear of obstructions.
(7) Position front wing attach torsion links to fit in upper fitting of fuselage.
(8) Adjust jacks until the eight fuselage-to-wing attach fitting bolt holes align.

NOTE: ● Install wing transfer dolly under each wing and adjust transfer dolly to assist in alignment of wing attach fitting holes.

● Use centering pins to align wing attach bolt holes. Install centering pins and bolts from the forward side of wing attach fitting. Install wing attach bolts starting at the forward fittings and progress aft.

● Use a 9X rivet gun or equivalent with a flush set and a drive pin to drive centering pins and wing attach bolts into fittings.

(9) Drive centering pins from forward side of upper wing attach fitting torsion links using drive pin and rivet gun. Use special care to prevent damage to attach fittings. (Upper forward attach fittings are accessible from inside cabin.)

(10) Drive new wing attach bolts in behind centering pins, driving out centering pins from holes.

(11) Install washers and castellated nuts on upper torsion link attach bolts and torque nuts 270 to 300 inch-pounds. Install cotter pin and apply ProSeal 890 sealant around bolt head and nut. This is to prevent cabin pressure from leaking through fitting.

(12) Check next aft wing attach bolt holes for alignment.

(13) After fittings are aligned, drive centering pins in fittings using rivet gun and drive pin.

(14) Drive new attach fitting bolts in fittings, driving out certering pins.

(15) Install washers and self-locking nuts on attach bolts and torque nuts 450 to 500 inch-pounds.

CAUTION: WHEN DRIVING PINS AND BOLTS FOR THE FOUR REMAINING FITTINGS, USE A BUCKING BAR AND BACKUP WING ATTACH FITTINGS. THIS IS TO PREVENT DAMAGE TO ATTACH FITTING AND TO KEEP IT FROM SPREADING.

(16) Install remaining wing attach bolts and install washers and self-locking nuts. Torque nuts 450 to 500 inch-pounds.

(17) Lower wing mating dolly and transfer dolly and remove from under aircraft.

(18) Perform a dye penetrant check of keel beam attach fittings and apply zinc chromate primer on keel beam mounting pads as required. Inspect keel beam bolts for general condition.

(19) Position keel beam under fuselage. Route vent tubes at aft end of keel beam into fuselage.

(20) Push keel beam in between mounting pads and secure keel beam using existing bolts, nuts, and washers. Torque nuts 100 to 140 inch-pounds.

NOTE: Forward keel beam attach bolts must be installed through frame 15. The forward keel beam fitting is accessible forward of frame 15 under floorboard.

(21) Untie rope and lower main landing gear.

(22) Connect plumbing and electrical wiring between keel beam and wing.

(23) Connect plumbing and electrical wiring between fuselage and wing.

(24) Connect wing leading edge anti-ice hoses and temperature sensor wiring.

(25) Install tip tank tailcone and fin using existing hardware.

(26) Install engine throttle cables. (Refer to Chapter 76.)

CAUTION: CAREFULLY CHECK FOR THE CORRECT ROUTING OF FLIGHT CONTROL CABLES; MISROUTING OF CABLES MAY RESULT IN WEAR OF COMPONENTS OR THE BINDING OF CABLES.

(27) Route flight control cables through frame 15 and keel beam and connect turnbuckles. Rig cables.
(28) Route aileron cables in wing and connect turnbuckles and install pulleys and guide pins. Rig cables.
(29) Install cable fairleads and pressure seals at frame 15.
(30) Install flux valve connector in baggage compartment and reseal connectors. Replace liner.
(31) Install cabin floorboards.
(32) Install interior arm rests.
(33) Install cabin seats and divan.
(34) Apply sealant between trailing edge of wing-to-fuselage fairing inboard of wing flaps and install rivets that were previously removed.

CAUTION: USE CORRECT LENGTH OF SCREWS WHEN INSTALLING WING FILLET FAIRING. SCREWS THAT ARE TOO LONG MAY CAUSE DAMAGE TO SEALED DOME NUTPLATES IN THE WING FUEL AREA AND CABIN AREA.

(35) Apply aerodynamic sealant around wing fillet fairing and install screws.
(36) Install ADF antenna if necessary under fuselage.
(37) Check that all plumbing and electrical wiring is connected.
(38) Install wing flaps.

CAUTION: CHECK THAT FLAPS, SPOILERS, AND LANDING GEAR ARE CLEAR OF OBSTRUCTIONS PRIOR TO OPERATION.

(39) Service hydraulic reservoir.
(40) Install and connect aircraft batteries.
(41) Apply pressure to hydraulic system and perform leak check.
(42) Cycle flaps, spoilers, and landing gear until air is bled from the hydraulic system.
(43) Perform landing gear operational check. (Refer to Chapter 32.)
(44) Position landing gear to down and locked.

CAUTION: ASSURE THAT GEARS ARE LOCKED PRIOR TO PERFORMING STEP (45).

(45) Lower aircraft and remove jack and jack pads from aircraft.
(46) Perform flight controls operational check.

CAUTION: CHECK THAT CONTROL CABLES ARE CORRECTLY ROUTED AND ARE NOT RUBBING OR BINDING.

(47) Fuel aircraft and perform leak check and fuel system operational check.
(48) Perform operational checks as required on all systems that were previously disconnected.
(49) Remove wing protective covering and install wing and fuselage access doors.

VORTEX GENERATORS - MAINTENANCE PRACTICES

1. Tools and Equipment

NAME	NUMBER	MANUFACTURER
Sandpaper	400 grit	Commercially Available
Methyl Ethyl Ketone		Commercially Available
Epoxy Adhesive	EC-2215B and EC-2216A	Minnesota Mining & Mfg. Co.

2. Removal/Installation

A. Replace Vortex Generator (See figure 201.)

(1) Using methyl ethyl ketone, clean all old cement and foreign matter from area on wing where cement is to be applied.

(2) Sand with 400 grit sandpaper. Again wash the area with methyl ethyl ketone and wipe dry while still wet.

(3) Locate the vortex generator as shown and mark its outline on the wing.

(4) Sand the mating surface of the vortex generator with 400 grit sandpaper, wash with methyl ethyl ketone and wipe dry while still wet.

(5) Mix 100 parts by weight of EC-2216B to 140 parts by weight of EC-2216A. Mix until the two parts blend to a uniform medium gray color.

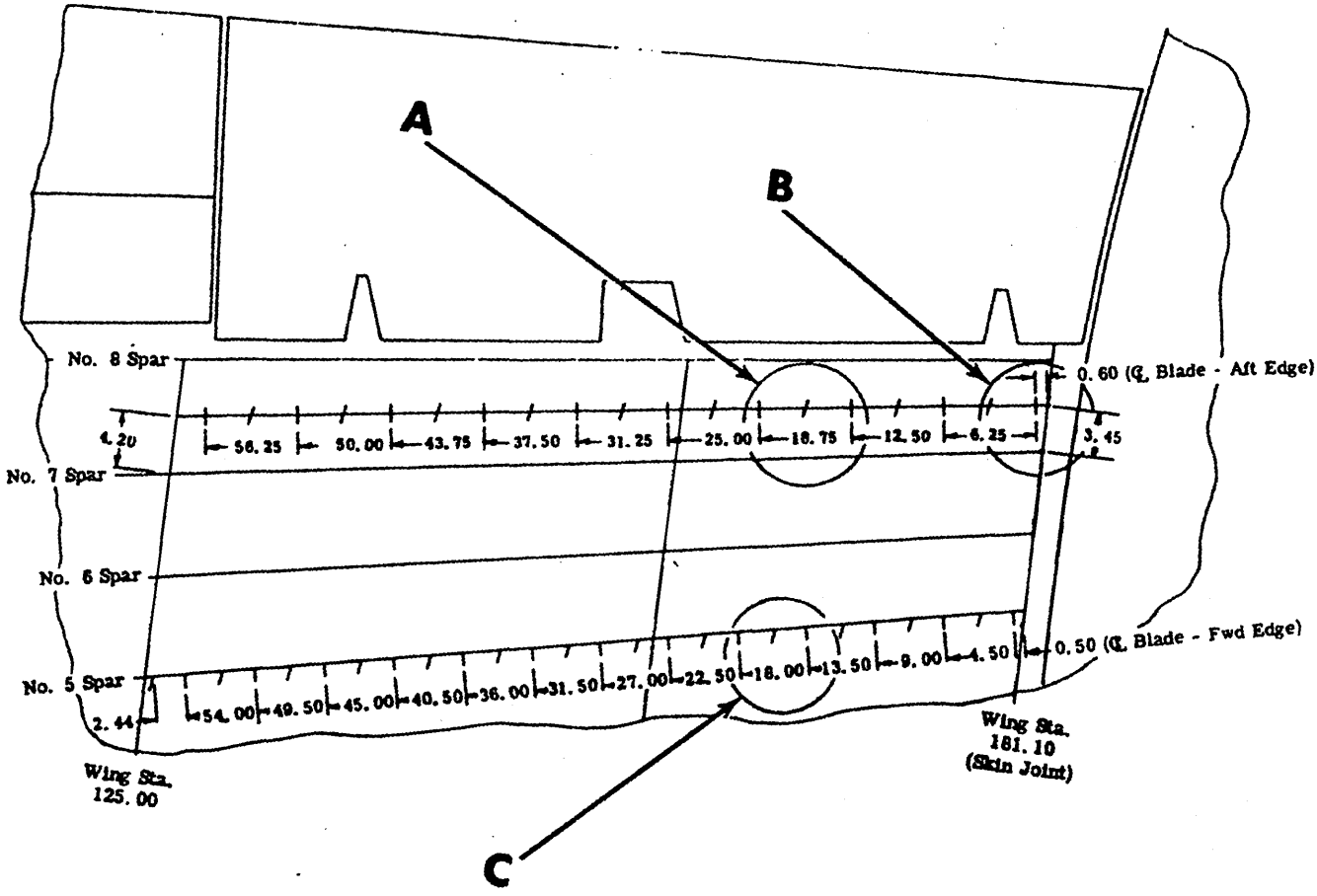
NOTE: The pot life of the mixed adhesive is approximately 2 hours.

(6) Using a spatula, apply mixed adhesive to the cleaned surfaces.

(7) Position vortex generator on marks on wing and press generator to the wing to affect the bond.

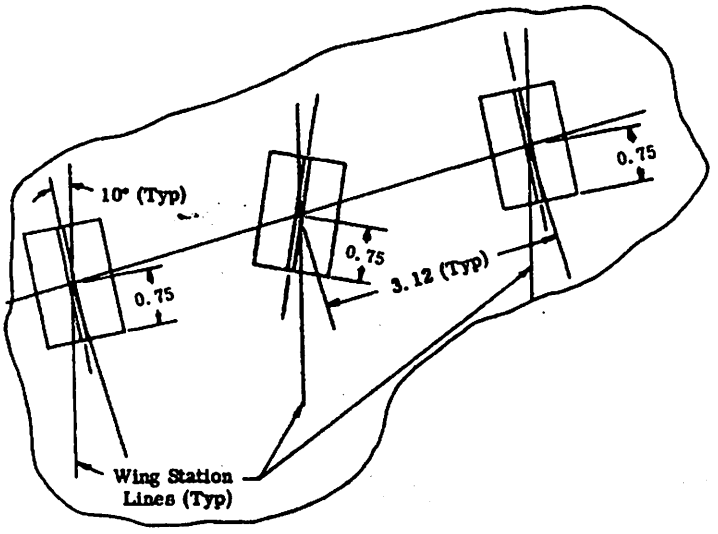
NOTE: The only pressure required during the cure of EC-2216 is that necessary to keep parts in alignment and to overcome distortion and thermal expansion.

(8) Allow bond to cure at room temperature for 24 hours. Full cure is achieved in 3 to 7 days at room temperature. Cure may be accelerated by heating for 2 hours at 150° F or 45 minutes at 200° F.

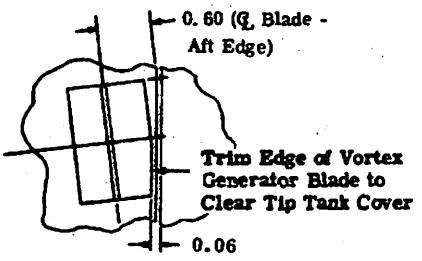


Vortex Generator Installation
Figure 201 (Sheet 1 of 2)

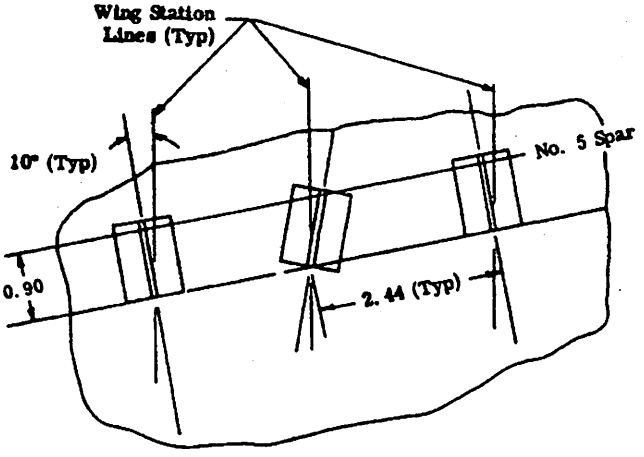
EFFECTIVITY: 25-061, 25-070 thru 25-289 Not Equipped with AAK 79-10 "Installation of Wing Fences, Stall Strips, and Boundary Layer Energizers" or AAK 82-8 "Handling Qualities Improvement"



Detail A



Detail B



Detail C

Vortex Generator Installation
Figure 201 (Sheet 2 of 2)

STALL FENCE - MAINTENANCE PRACTICES

1. Removal/Installation

A. Remove upper forward stall fence. (See figure 201.)

NOTE: The following procedure may be used for aircraft which have a single-piece upper stall fence installed.

(1) Drill out the 1/8 inch and 5/32 inch rivets attaching the upper forward stall fence to wing.

CAUTION: DO NOT CUT INTO WING SKIN, AS DAMAGE TO THE WING SKIN WILL REQUIRE EXTENSIVE REPAIR.

(2) Using an awl or equivalent, cut radius of fillet seal along the edge of stall fence. Exert only enough pressure to break through paint and fillet seal surfaces.

CAUTION: USE EXTREME CARE NOT TO DAMAGE WING SKIN WHEN REMOVING UPPER STALL FENCE. DO NOT USE CHISEL TO PRY STALL FENCE FROM WING.

(3) Break forward upper stall fence away from wing. Place blade end of chisel between the forward end of upper stall fence and wing skin (beveled edge against wing). Using a mallet, strike butt end of the chisel with enough force to break bond (force applied to the blade end of the chisel must be away from the wing skin). Once bond is broken at the forward end of upper forward stall fence, an upward thrust of the upper forward stall fence will free it from the wing.

B. Install upper forward stall fence. (See figure 201.)

NOTE: The following procedure may be used for aircraft which have a single-piece upper stall fence installed.

(1) Clean area with MEK. Wipe dry with a clean white cloth. Do not allow MEK to air dry as a residue will remain on the surface.

CAUTION: USE EXTREME CARE NOT TO DAMAGE THE WING SKIN WHEN MECHANICALLY REMOVING OLD ADHESIVE.

(2) Mechanically remove old adhesive from installation area.
(3) Finish sand installation area with 400 grit sandpaper.

EFFECTIVITY: 25-290 and Subsequent and prior Aircraft equipped with AAK 79-10 "Installation of Wing Fences, Stall Strips, and Boundary Layer Energizers" or AAK 82-8 "Handling Qualities Improvement"

(4) Clean all residue from installation area using MEK. Wipe dry with a clean white lint-free cloth. Do not allow MEK to air dry as a residue will remain on the wing surface.

(5) Apply an anti-corrosion chemical treatment (Turcoat Accelagold) to the wing area which has been stripped of paint. (Refer to Chapter 20.)

(6) Install the wing leading edge section at WS 125.0.

(7) Ensure that the upper forward stall fence mates properly with the leading edge stall fence.

(8) Position upper forward stall fence on wing. Mate forward portion of the upper forward stall fence with leading edge stall fence. The gap between wing and upper forward stall fence shall not be more than 0.10 inch at any point along the entire length of the upper stall fence. If the gap is greater than 0.10 inch, remove the upper forward stall fence from the wing and form to fit.

(9) Position upper forward stall fence on the wing mated with the leading edge stall fence. Locate existing holes in the wing to the upper forward stall fence and, using a No. 30 drill, drill holes in upper forward stall fence to match the holes in wing. Countersink rivet holes.

(10) Prepare the forward mounting rivet holes and two CR3242-4 rivets for a positive electrical bond by applying Iridite 14-9 chemical treatment as described in Chapter 20.

(11) Mix epoxy primer as follows:

(a) Mix equal parts by volume of EC1945A (accelerator) and EC1945B (base) and stir thoroughly.

(b) Mixed primer has a room temperature pot life of approximately eight hours.

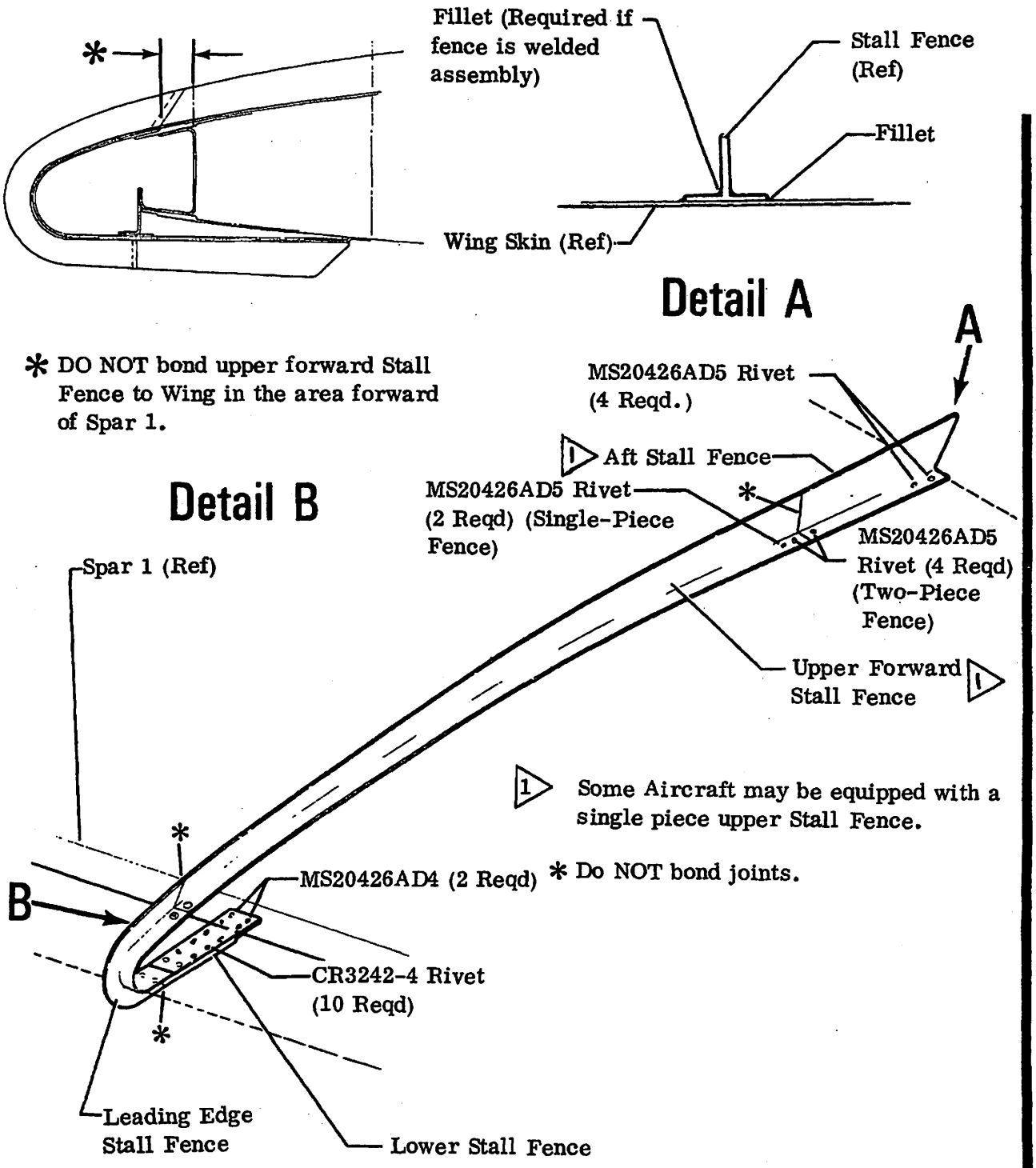
(12) Apply a thin uniform coat (0.0002 to 0.0005 inch) of epoxy primer to the installation area. Allow epoxy primer to cure for 24 hours at room temperature. Primer may be force cured at 160° F for 60 minutes or at 180° F for 30 minutes.

(13) Position upper forward stall fence on wing, properly mated with the leading edge stall fence and Cleco in place. Using a pencil, mark a line along inboard and outboard edges (the entire length) of the upper stall fence. Remove Cleco and upper forward stall fence from the wing.

CAUTION: MIX ENOUGH ADHESIVE TO ACCOMPLISH STEP 16. THE INSTALLATION MUST BE COMPLETED WITHIN 45 MINUTES AFTER MIXING THE ADHESIVE.

(14) Mix the adhesive as follows:

(a) Mix (by weight) two parts EC1751B to one part EC1751A. Mix thoroughly; avoid excessive air bubbles. Bonding must be accomplished within 45 minutes.



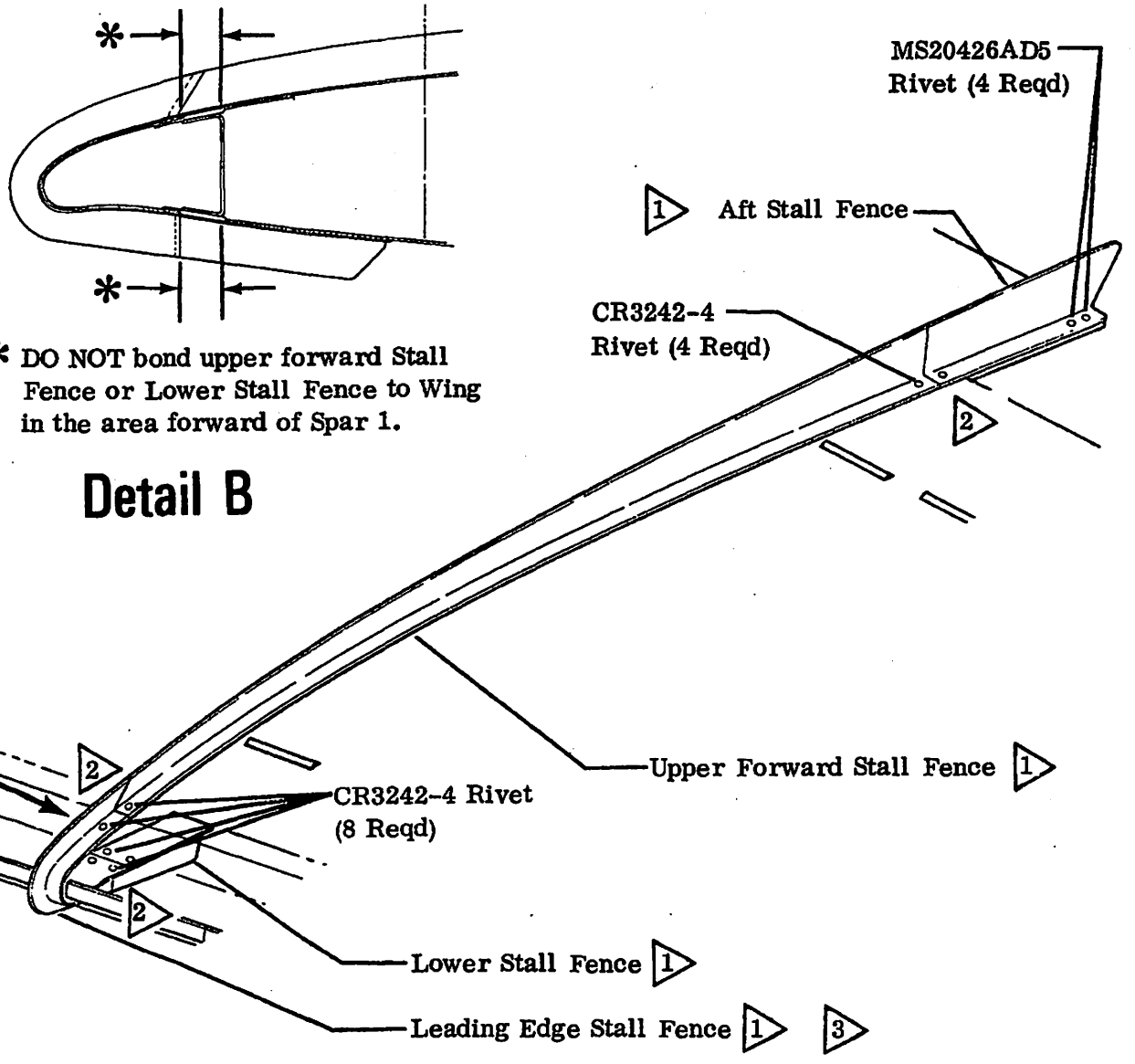
Stall Fence Installation
Figure 201 (Sheet 1 of 2)

EFFECTIVITY: 25-290 and Subsequent and prior Aircraft equipped with AAK 79-10 "Installation of Wing Fences, Stall Strips, and Boundary Layer Energizers."

1. Fences bonded to Wing Skin and Wing Leading Edge and secured by rivets after bond has cured.

2. Do not apply bonding material to fence joints.

3. A screw may secure leading edge stall fence (upper or lower surfaces) depending upon fence location when kit was installed.



Stall Fence Installation
Figure 201 (Sheet 2 of 2)

EFFECTIVITY: 25-061, 25-070 thru 25-289 when equipped with AAK 82-8 "Handling Qualities Improvement"

NOTE: The application of adhesive to the stall fence should be thick enough so the adhesive will squeeze out on both sides (the entire length) of the fence when it is installed.

(15) Apply a coating of EC1751 to the upper forward stall fence except for the area forward of spar 1. The adhesive must be applied with a spatula or roller in such a manner so as to prevent entrapped air.

(16) Position upper stall fence on wing aligning the forward and aft rivet holes using the installation area marked in step 13 as a guide.

CAUTION: ENSURE THAT THE POSITION OF THE FENCE IS NOT DISTURBED WHEN ANCHORING IT TO THE WING.

(17) Anchor upper forward stall fence to the wing with shot bags or equivalent method. Form a concave fillet seal between the stall fence and the wing skin with the adhesive squeeze-out. Clean excess adhesive from wing and fence with a cloth dampened with MEK. Allow the adhesive to cure at room temperature for 24 hours. Adhesive may be force cured at 150° F for 60 minutes or at 200° F for 30 minutes.

(18) Remove the anchor device from the upper wing stall fence and drill the sealant out of the rivet holes, as necessary to facilitate rivet installation.

(19) Install rivets. Ensure that the rivets processed in step 10 are installed forward of spar 1. Ensure that all rivets are flush with the base of the upper forward stall fence.

(20) Apply an anti-corrosion chemical treatment (Turcoat Accelagold) to the upper wing stall fence. (Refer to Chapter 20.)

(21) Prime and paint the upper forward stall fence and surrounding area where paint has been removed. (Refer to Chapter 20.)

(22) Install wing leading edge section.

(23) Perform stall warning test and adjustment. (Refer to Chapter 27.)

C. Remove leading edge stall fence. (See figure 201.)

NOTE: On some aircraft the screws which secure the wing leading edge may also secure the leading edge stall fence.

(1) Remove screw(s) attaching the leading edge stall fence to the wing.

(2) Drill out the 1/8 inch rivets which attach leading edge stall fence.

CAUTION: USE EXTREME CARE NOT TO DAMAGE THE LEADING EDGE WHILE REMOVING THE LEADING EDGE STALL FENCE.

(3) Using an X-acto knife or equivalent, cut adhesive which holds the stall fence to the leading edge. Cut away the adhesive until leading edge stall fence is separated from leading edge.

EFFECTIVITY: 25-290 and Subsequent and prior Aircraft equipped with AAK 79-10 "Installation of Wing Fences, Stall Strips, and Boundary Layer Energizers" or AAK 82-8 "Handling Qualities Improvement"

D. Install leading edge stall fence. (See figure 201.)

(1) Clean area with MEK. Wipe dry with a clean white cloth. Do not allow MEK to dry as a residue will remain on the surface.

CAUTION: USE EXTREME CARE NOT TO DAMAGE THE LEADING EDGE WHEN MECHANICALLY REMOVING THE OLD ADHESIVE.

(2) Mechanically remove old adhesive.

(3) Finish sanding area with 400 grit sandpaper.

(4) Clean all residue from area using MEK. Wipe dry with a clean white lint-free cloth. Do not allow MEK to air dry as a residue will remain on the surface.

(5) Apply an anti-corrosion chemical treatment (Turcoat Accelagold) to the leading edge stall fence installation area.

(6) Position leading edge stall fence on leading edge. Ensure that it mates properly with the upper and lower stall fence sections.

(7) Ensure gap between leading edge and the leading edge stall fence is not greater than 0.03 inch at any point. If the gap is greater than 0.03 inch, remove leading edge stall fence and form to fit contour of the leading edge.

(8) Place the formed-to-fit leading edge stall fence on the wing leading edge mated with the upper and lower stall fences. Locate existing rivet and screw holes in wing leading edge to base of leading edge stall fence. Using a No. 30 bit, drill holes in the base of the leading edge stall fence to match rivet holes in the leading edge. Countersink the rivet holes.

NOTE: If necessary, use a No. 19 bit and drill hole in base of leading edge stall fence to match screw hole in the leading edge. Use extreme care not to damage nutplate. On some aircraft the stall fence may be notched to clear the screw head if the edge distance is insufficient to drill hole and properly countersink.

(9) Position leading edge stall fence on wing leading edge. Secure leading edge stall fence in position with Cleco fasteners. Using a pencil, mark a line along the inboard and outboard edges (the entire length) of the leading edge stall fence. Remove Cleco fasteners and leading edge stall fence.

(10) Ensure that the leading edge and the stall fence are clean and free of foreign material (grease, dirt, etc.). Using a clean white cloth dampened with MEK, clean as required. Wipe dry with a clean white cloth. Do not allow MEK to air dry as a residue will remain on the surface.

NOTE: The application of the RTV adhesive to the stall fence should be thick enough so the adhesive will squeeze out on both sides (the entire length) of the fence when installed.

CAUTION: USE EXTREME CARE NOT TO BOND THE LEADING EDGE TO THE WING WHEN INSTALLING THE LEADING EDGE STALL FENCE.

(11) Apply a liberal bead of RTV 154 or RTV 157 to the leading edge stall fence. Using the area marked in step (9) as a guide, place the stall fence on the leading edge properly mated with the upper and lower stall fences. Anchor the stall fence to the leading edge. Using the squeeze-out sealant, form a concave fillet seal between the base of the stall fence and leading edge (fillet size to blend). Clean excess sealant from stall fence and leading edge. Allow the adhesive to cure for 24 hours at room temperature. Cure time may be accelerated by higher temperatures and increased humidity.

(12) Remove adhesive from the rivet and screw holes and install rivets and screws.

(13) Perform stall warning test and adjustment. (Refer to Chapter 27.)

E. Remove the lower stall fence. (See figure 201.)

CAUTION: DO NOT CUT INTO THE WING SKIN, AS DAMAGE TO THE WING SKIN WILL REQUIRE EXTENSIVE REPAIR.

(1) Using an awl or equivalent, cut into the radius of the fillet seal at the attachment point of the stall fence.

(2) Drill out 1/8 inch rivets attaching lower stall fence to wing.

(3) Remove lower stall fence.

F. Install lower stall fence. (See figure 201.)

(1) Clean area with MEK. Wipe dry with a clean white cloth. Do not allow MEK to air dry as a residue will remain on the surface.

CAUTION: USE EXTREME CARE NOT TO DAMAGE WING WHEN MECHANICALLY REMOVING FILLET ADHESIVE.

(2) Mechanically remove old fillet seal.

(3) Finish sand area with 400 grit sandpaper.

(4) Clean all residue from area using MEK. Wipe dry with a clean white lint-free cloth. Do not allow MEK to air dry as a residue will remain on the wing surface.

(5) Apply an anti-corrosion chemical treatment (Turcoat Accelagold) to the wing area which has been stripped of paint. (Refer to Chapter 20.)

(6) Ensure the lower stall fence mates properly with the leading edge stall fence.

(7) Position lower stall fence on wing, mating forward portion of lower stall fence with leading edge stall fence. Ensure that the lower stall fence mates the contour of the wing.

(8) Position lower stall fence on the wing and properly mate with leading edge stall fence. Locate existing holes in the lower side of wing to base of the lower stall fence. Using a No. 30 drill, drill holes in the base of the lower stall fence. Countersink holes.

(9) Mix epoxy primer as follows:

(a) Mix equal parts by volume of EC-1945A accelerator into EC-1945B base. Mix thoroughly. Pot life of primer is approximately eight hours.

(10) Apply a coat of epoxy primer (0.0002 to 0.0005 inch thick) to area where lower stall fence is to be installed. Allow 24 hours cure time at 22°F.

NOTE: An accelerated cure can be achieved by:
160°F for 60 minutes or
180°F for 30 minutes.

(11) Mix epoxy adhesive as follows:

(a) Mix (by weight) two parts EC1751B to one part EC1751A. Mix thoroughly. Mix only that amount of adhesive that can be used in 45 minutes.

(12) Apply a coat of adhesive 0.0002 to 0.0005 inch thick over epoxy primer.

(13) Carefully position lower stall fence on wing and install two rivets. Aft portion of fence must be secured in position by propping a board between the fence and floor. Use care not to apply excessive pressure which causes excessive squeeze-out of adhesive.

(14) Allow 24 hours cure time at 75°F.

NOTE: An accelerated cure can be achieved by:
150°F for 60 minutes or
200°F for 30 minutes.

(15) Prime and paint the lower stall fence and surrounding area where paint has been removed. (Refer to Chapter 20.)

(16) Perform stall warning test and adjustment. (Refer to Chapter 20.)

G. Remove Aft Stall Fence. (See figure 201.)

(1) Drill out rivets attaching aft stall fence to wing.

(2) Remove aft stall fence from wing.

H. Install Aft Stall Fence. (See figure 201.)

(1) Using 400 grit sandpaper, clean all old adhesive from wing skin. Clean area using MEK. Wipe dry with a clean white lint-free cloth. Do not allow MEK to air dry as a residue will remain.

(2) Apply an anti-corrosion chemical treatment (Turcoat Accelagold) to cleaned area.

(3) Position aft stall fence on wing and, using existing holes in wing, locate holes to base of aft stall fence.

(4) Using a No. 21 drill, drill holes in aft end of fence. Using a No. 30 drill, drill holes in forward end of fence. Countersink holes.

NOTE: On Aircraft 25-061, 25-070 thru 25-289 equipped with AAK 82-8, rivets in forward end of the aft stall fence are 1/8 inch rivets. All other rivets are 5/32 inch.

(5) Position aft stall fence on wing and Cleco in place. Check for clearance between stall fence and wing. Gap shall not exceed 0.10 inch.

(6) Place a pencil mark along both sides of aft stall fence. Remove Clecos and fence from wing.

(7) Mix epoxy primer as follows:

(a) Mix equal parts (by volume) of EC-1945A accelerator and EC-1945B base. Mix thoroughly.

(8) Apply a coat of epoxy primer (0.0002 to 0.0005 inch thick) to area where aft stall fence is to be installed. Allow 24 hours cure time at 72°F.

NOTE: An accelerated cure can be achieved by
160°F for 60 minutes or
180°F for 30 minutes.

(9) Mix epoxy adhesive as follows:

(a) Mix (by weight) two parts of EC-1751B to one part EC-1751A. Mix thoroughly. Mix only that amount of adhesive that can be used in 45 minutes.

(10) Apply a coat of adhesive (0.0002 to 0.0005 inch thick) over epoxy primer.

(11) Carefully position aft stall fence on wing. Install two rivets at forward end of fence. Insert, but do not install, four rivets at aft end of fence. Clamp fence securely in place and allow to cure for 24 hours at 75°F.

NOTE: An accelerated cure can be achieved by:
150°F for 60 minutes or
200°F for 30 minutes.

(12) After adhesive has cured, install 4 aft rivets.

(13) Apply a fillet along both sides of fence with adhesive.

BOUNDARY LAYER ENERGIZERS - MAINTENANCE PRACTICES

1. Removal/Installation

NOTE: It is not recommended that the BLEs be removed, however should the BLEs become dislodged, installation procedures are provided.

A. Install the BLEs (See figure 201.)

(1) Clean the installation area with MEK. Wipe dry with a clean white cloth. Do not allow MEK to air dry as a residue will remain on the surface.

CAUTION: USE EXTREME CARE NOT TO DAMAGE THE WING SKIN WHEN MECHANICALLY REMOVING THE OLD ADHESIVE.

(2) Mechanically remove the old adhesive from the installation area.

(3) Finish sand the installation area with 400 grit sandpaper.

(4) Clean all residue from the installation area using MEK. Wipe dry with a clean white lint-free cloth. Do not allow MEK to air dry as a residue will remain on the wing surface.

(5) Apply an anti-corrosion chemical treatment (Turcoat Accelagold) to the wing area which has been stripped of paint (refer to Chapter 20.)

(6) Prepare the epoxy primer as follows:

(a) Mix equal parts by volume of EC 1945A (accelerator) and EC 1945B (base) and stir thoroughly.

(b) Mixed primer has a room temperature pot life of approximately eight hours.

(7) Apply a thin uniform coat of epoxy primer. Allow epoxy primer to cure for 24 hours at room temperature (72°F). Primer may be force cured at 160°F for 60 minutes or at 180°F for 30 minutes.

WARNING: TO ENSURE PROPER FLIGHT CHARACTERISTICS, IT IS IMPORTANT THAT THE REPLACEMENT BLE(S) BE INSTALLED EXACTLY AT THE LOCATION(S) AS THE MISSING BLE(S).

(8) Mark the location of the BLEs to be installed.

(9) Prepare the epoxy adhesive as follows:

(a) Mix 100 parts by weight of EC2216B to 140 parts by weight of EC2216A.

(b) Mix until the components blend to a medium gray. The pot life of the mixed adhesive is approximately two hours at room temperature.

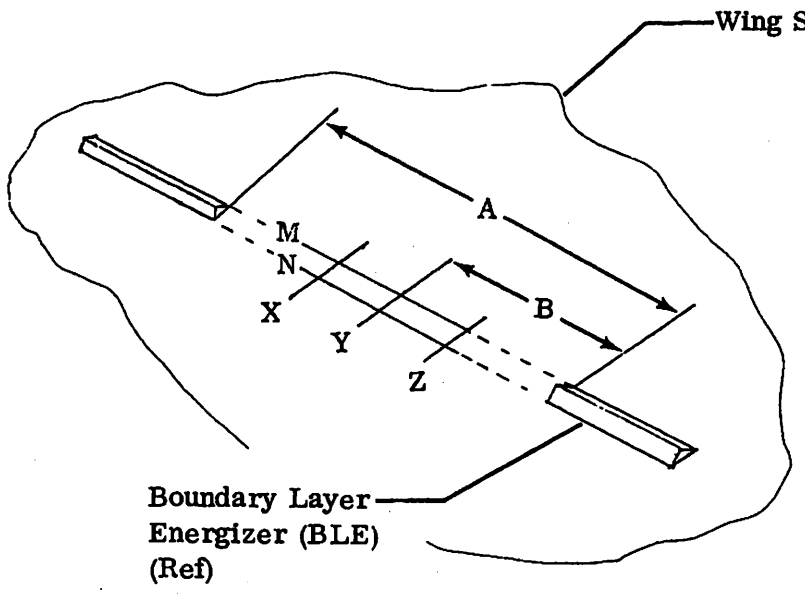
(10) Apply a thin coat of epoxy adhesive to the installation area as marked in step (8). Use epoxy adhesive sparingly.

(11) Place the new BLE(s) in position and press into the adhesive. Wipe excess adhesive off of the BLE and wing to form a smooth surface at the bond.

(12) Secure the BLE(s) to wing with masking tape and allow the epoxy adhesive to cure at room temperature for 24 hours. (Adhesive may be force cured at 150° F for 2 hours or at 200° F for 45 minutes.) Remove tape.

(13) After the epoxy adhesive has cured, apply an anti-corrosion (Turcoat Accelagold) and conductive coating chemical treatment to the replacement BLE(s) and surrounding wing area which has been stripped of paint to facilitate installation of the BLE(s). (Refer to Chapter 20.)

(14) Prime and paint the BLE(s) and installation area in accordance with Chapter 20.



INSTRUCTIONS:

1. Measure distance A (distance between BLEs).
2. Compute distance B by using the formula: 1/2 A = B.
3. Measure the distance B, which was computed in step 2., and mark line Y perpendicular to the imaginary centerline of the existing BLEs.
4. Measure two inches inboard and two inches outboard and mark lines X and Z parallel to line Y.
5. Lay a straight edge along the forward and aft edges of the existing BLEs and mark lines M and N.

 NOTE: Extend the line as shown to aid in installation of the BLE.

6. Measure the distance between M and N, the distance should be 0.332 inch.
7. Place the replacement BLE in the area between X and Z and M and N to ensure a proper fit.

Determine Replacement Boundary Layer Energizer Location
Figure 201

EFFECTIVITY: 25-290 and Subsequent and Prior Aircraft equipped with AAK 79-10 "Installation of Wing Fences, Stall Strips, and Boundary Layer Energizers" or AAK 82-8 "Handling Qualities Improvement"

AILERON BRUSH SEAL - MAINTENANCE PRACTICES

1. Removal/Installation

NOTE: Removal and installation are identical for the right and left hand aileron brush seals.

A. Remove inboard and outboard aileron brush seals as follows:
 (1) Remove aileron. (Refer to Chapter 27.)
 (2) Slide brush seal from the mounting bracket.

B. Install inboard and outboard aileron brush seal as follows:
 (1) Slide brush seal in mounting bracket.
 (2) Lubricate gap seal as described in Chapter 12.
 (3) Install the aileron and ensure proper rigging. (Refer to Chapter 27.)

C. On Aircraft 25-290 and Subsequent and prior Aircraft modified per AAK 79-10 "Installation of Wing Fences, Stall Strips, and Boundary Layer Energizers," remove the forward aileron brush seal as follows:
 (1) Remove the aileron. (Refer to Chapter 27.)
 (2) Using a No. 40 drill bit, drill out the rivets which hold the brush seal in place and remove the brush seal.
 (3) Clean the wing interior, ensure that all metallic particles are removed.

D. On Aircraft 25-290 and Subsequent and prior Aircraft modified per AAK 79-10 "Installation of Wing Fences, Stall Strips, and Boundary Layer Energizers," install the forward aileron brush seal as follows.
 (1) Position the brush seal in place. Ensure that each segment is in the proper position.
 (2) Using CE 2663-2 cherry rivets, attach each segment in place.
 (3) Lubricate the aileron brush seal in accordance with Chapter 12.
 (4) Install the aileron and check aileron rigging. (Refer to Chapter 27.)

MAIN FRAME - DESCRIPTION AND OPERATION

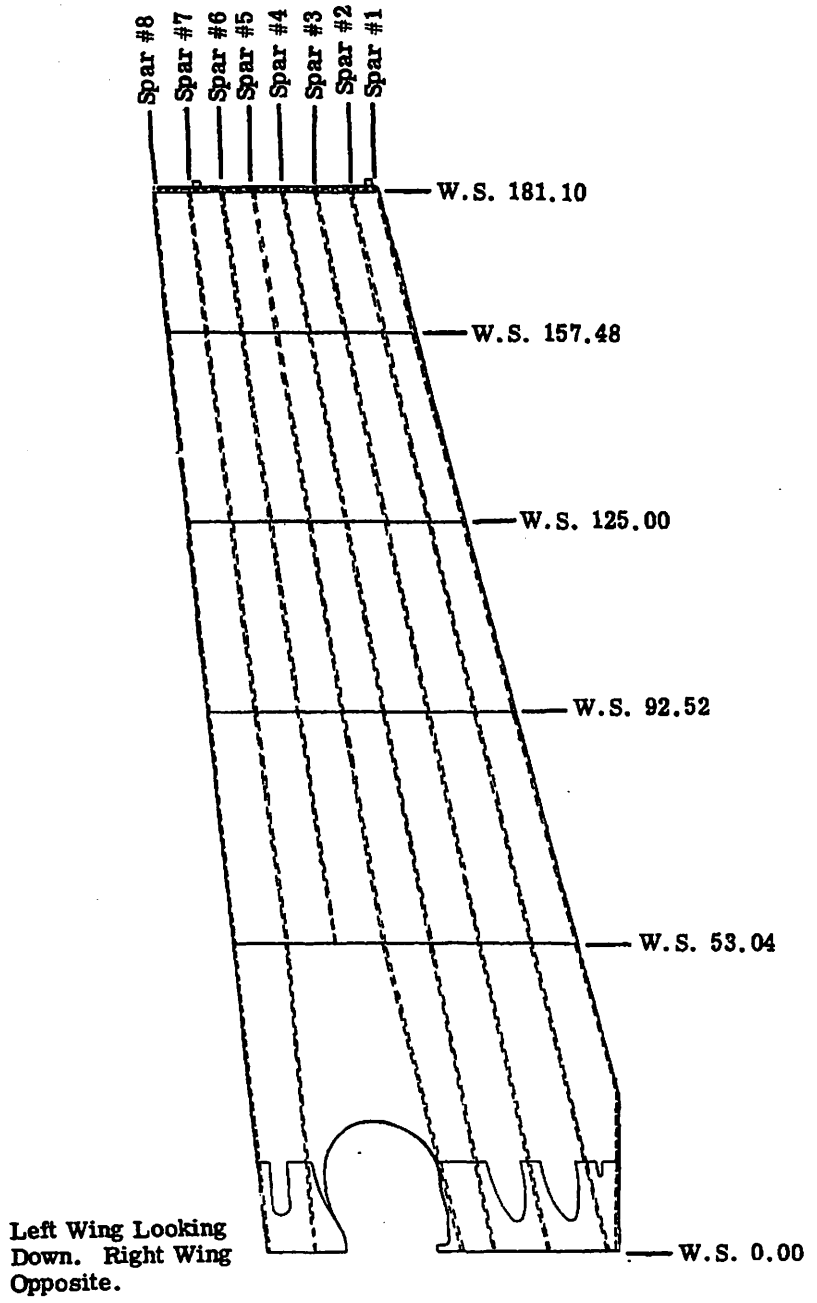
1. General

A. The wing structure main frame consists of the portion of wing forward of spar 7 and aft of spar 1.

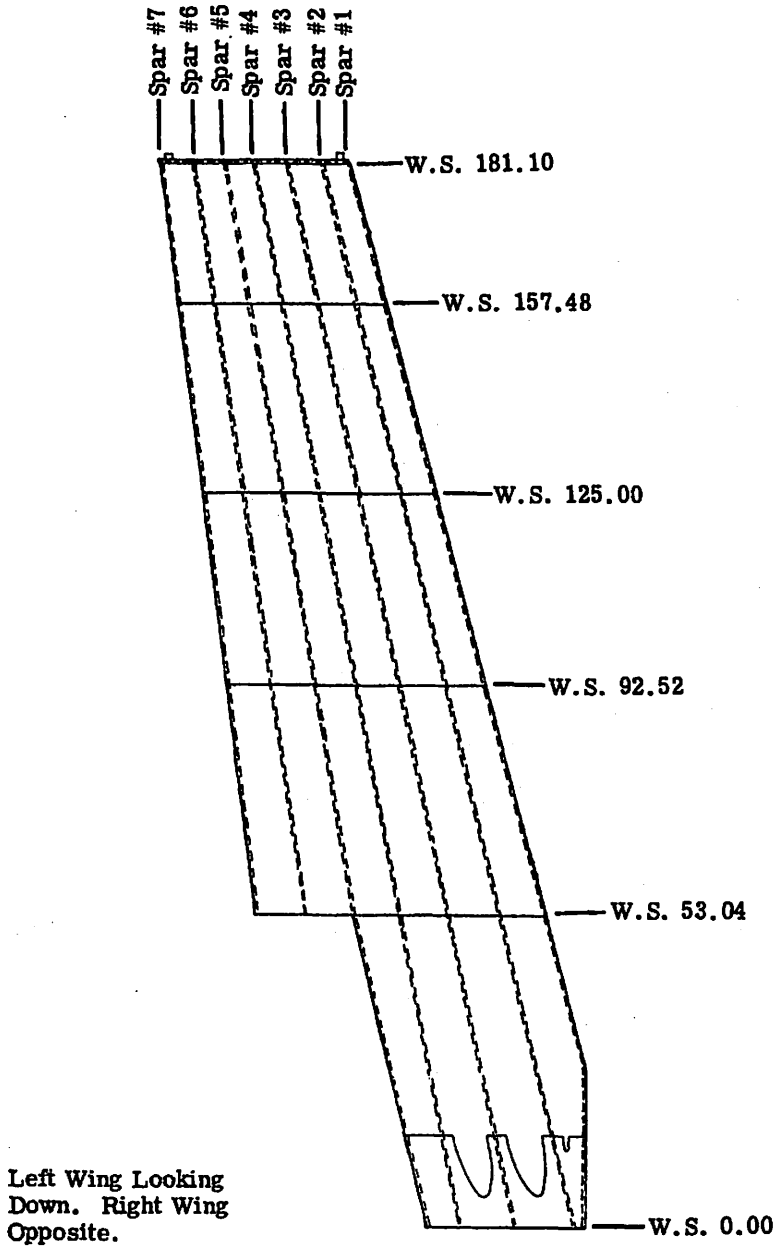
B. The main frame portion of the wing, with the exception of the main gear well, is an integral fuel tank. The outboard rib, spar 7 and spar 1 are sealed liquid tight to retain fuel. The ribs have holes with flapper valves over them to facilitate fuel flow through the wing. Small vent holes are incorporated in the upper and lower portion of each spar and rib. This allows fuel to flow from one compartment to the other.

C. The outboard rib incorporates the attach fittings for the tip tanks. The attach fittings are located one aft of spar 1 and one forward of spar 7.

D. The main gear wheel well incorporates forward and aft attach fittings for the main gear strut and an attach fitting for the main gear actuator.



Wing Main Frame
Figure 1

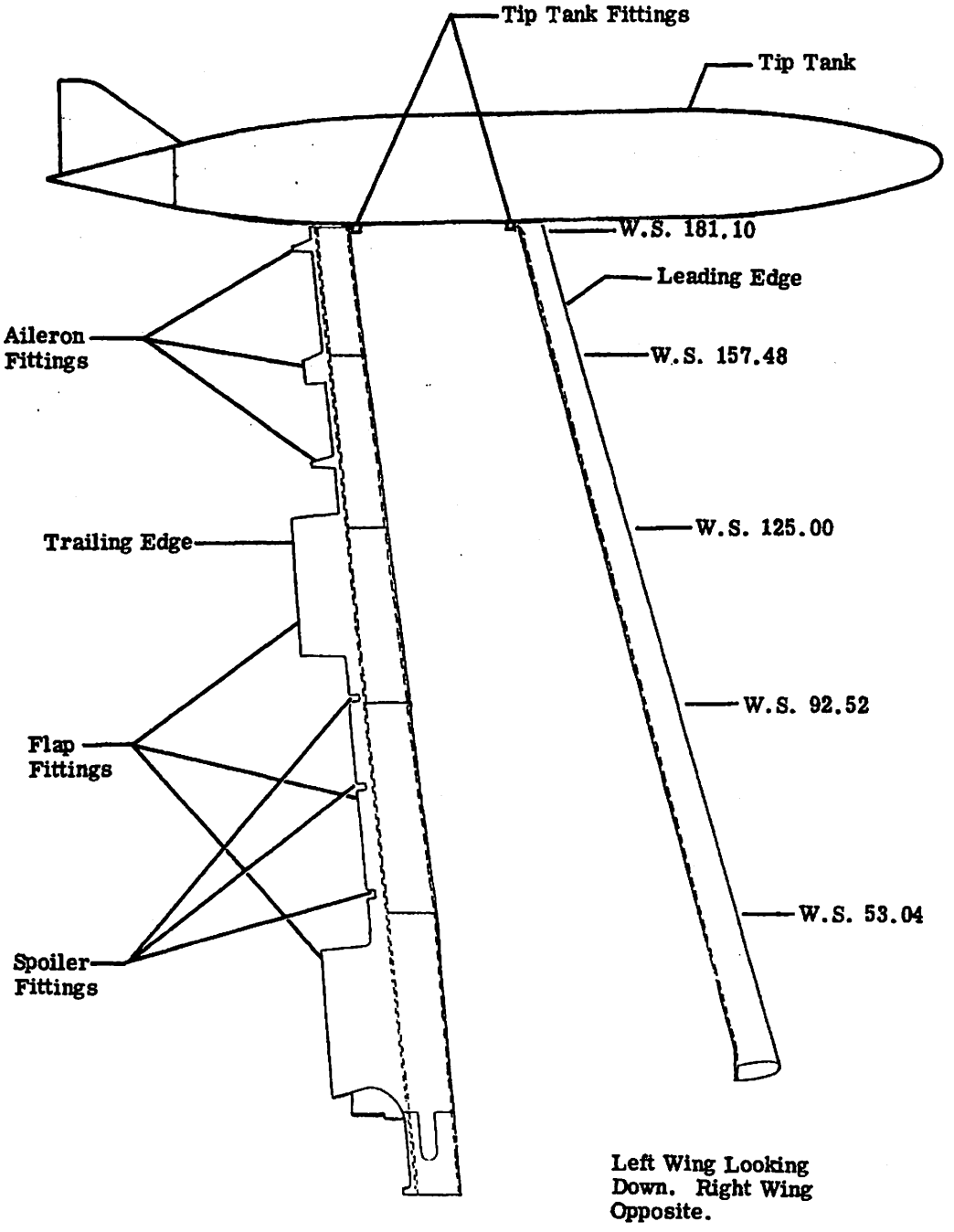


Wing Integral Fuel Tank
Figure 2

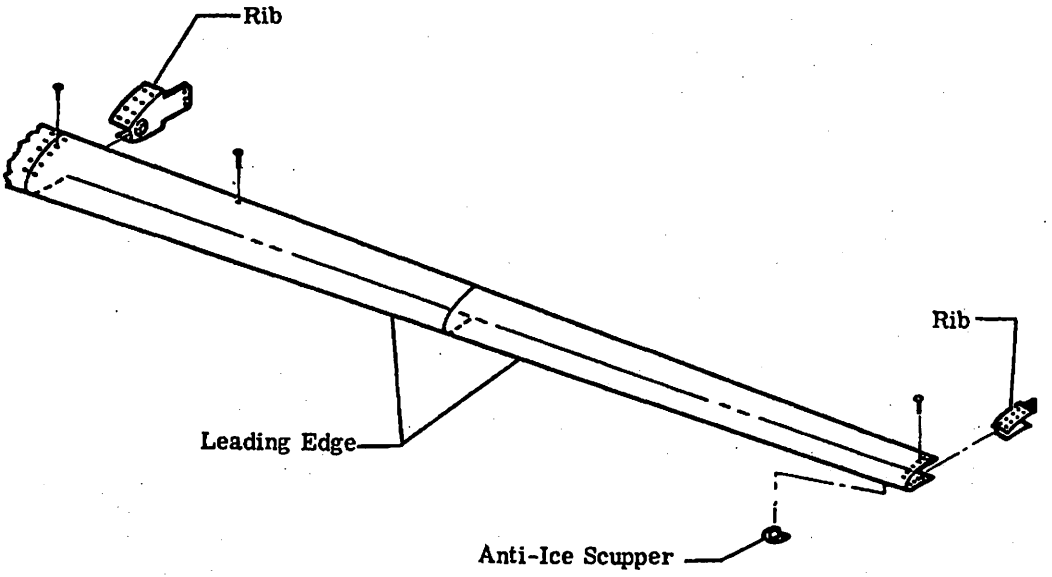
EFFECTIVITY: ALL

AUXILIARY STRUCTURE - DESCRIPTION AND OPERATION

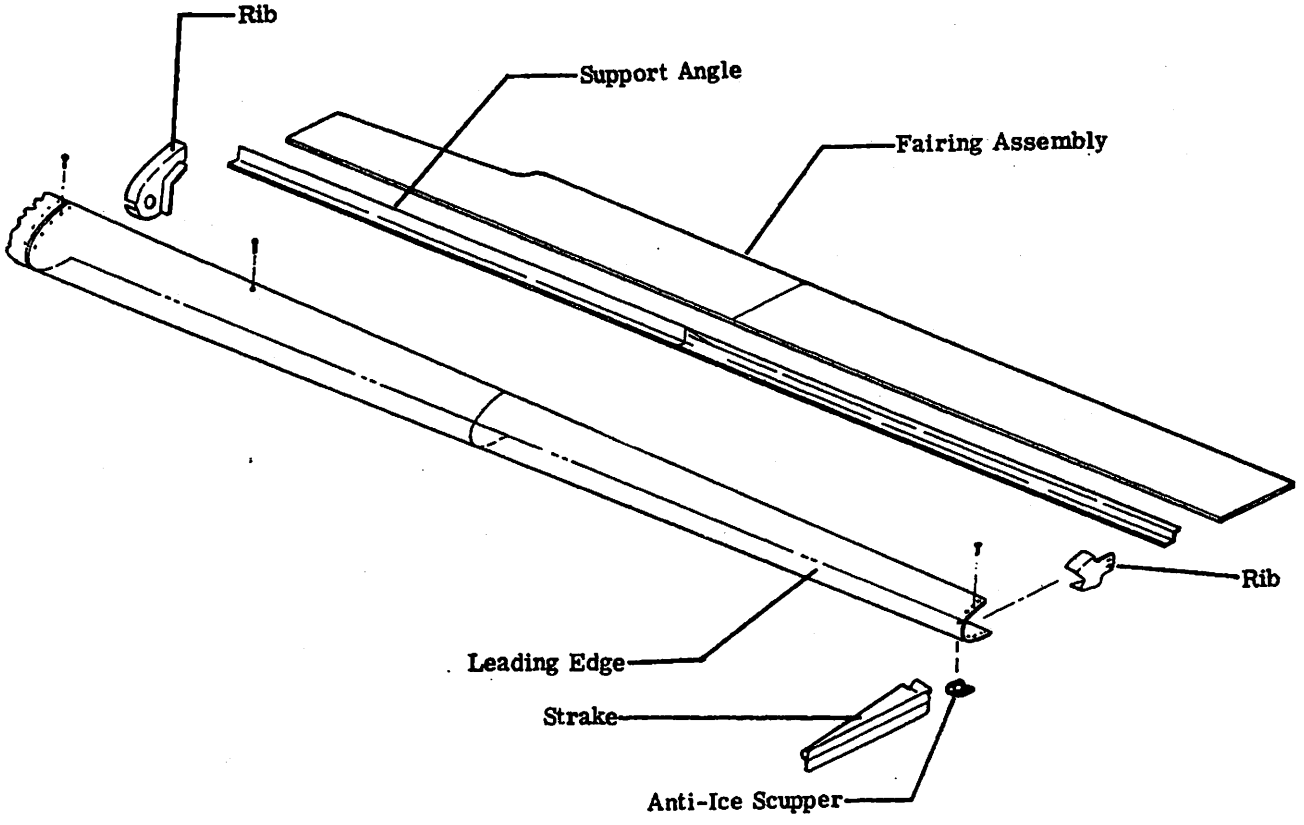
1. General
 A. The wing auxiliary structure consists of the wing leading edge, trailing edge and tip tank.
 B. The wing leading edge is that portion of the wing located forward of spar 1. A diffuser tube, located in the leading edge, provides anti-ice protection by distributing hot engine bleed air. A scupper located on the lower outboard portion of the leading edge provides an exhaust for the bleed air.
 C. The wing trailing edge is that portion of the wing located aft of spar 7 excluding control surfaces. The aft wing spar 8 incorporates hinge fittings for the aileron, flaps and spoilers.
 D. The tip tanks are positioned to the wing at 2° nose down. Two attach points, one aft of wing spar 1 and one forward of wing spar 7, secure the tip tank to the wing. Access covers on the top of the tank provide access for inspection and maintenance. Baffles are installed to minimize fuel slosh and prevent adverse fuel affects on the aircraft center of gravity during extreme flight attitudes. A recognition light is installed in the forward end of the right tip tank. A fuel dump valve is installed in the aft bulkhead of each tip tank. Refer to 28-11-00 for tip tank maintenance practices.



Auxiliary Structure
Figure 1



Leading Edge Installation
Figure 2



Leading Edge Installation
Figure 3

WING LEADING EDGE - MAINTENANCE PRACTICES

1. General
 - A. The wing leading edge is installed in two sections on each wing and is connected to the wing with a series of screws.
 - B. The wing leading edge is fit to the contour of the wing and affects the direction of the air flow over the wing surface. If the wing leading edge is not properly positioned, it will have an adverse effect on the desired lift characteristics of the wing causing the wing stall speed to change.
 - C. The wing leading edge houses the wing anti-ice plumbing, wing anti-ice heat sensor and thermostat. (Refer to Chapter 30 for heat sensor and thermostat maintenance.)
 - D. If installation of a new wing leading edge is performed, a flight test will be required to determine if the wing leading edge is properly installed and if possible adjustments to the stall warning system are necessary. (Refer to Chapter 27.)
 - E. Authorized maintenance to the wing leading edge is limited to removal and installation. A new wing leading edge must be installed at an Authorized Gates Learjet Repair Facility.
2. Removal/Installation
 - A. Remove the wing leading edge as follows:
 - (1) Remove the fuselage-to-wing fairing attachment screws and remove fairing.
 - (2) Disconnect the wing anti-ice plumbing and (right wing only) electrical wiring at the inboard end of the wing leading edge.

 CAUTION: SUPPORT THE WING LEADING EDGE SO THAT THE LEADING EDGE AND ATTACHING SCREWS WILL NOT BE DAMAGED DURING THE REMOVAL PROCEDURE.

 - (3) Remove the wing leading edge attaching screws and remove the wing leading edge.
 - B. Install the wing leading edge as follows:
 - (1) Mechanically remove the old filler from the skin gap of the leading edge and wing and from around the fuselage-to-wing fairing installation area.
 - (2) Clean the skin gap and fairing installation area with MEK. Wipe dry. Do not allow MEK to air dry as a residue will remain on the surface.

 CAUTION: SUPPORT THE WING LEADING EDGE SO THAT THE LEADING EDGE AND ATTACHING SCREWS WILL NOT BE DAMAGED DURING THE INSTALLATION PROCEDURE.

(3) Place the leading edge on the wing and secure with the attaching screws.
(4) Connect the anti-ice plumbing and (right wing only) electrical wiring at the inboard end of the leading edge.
(5) Place the fuselage-to-wing fairing in position and secure with attaching screws.
(6) Mix Pro-Seal 890B in accordance with the manufacturer's instructions.
(7) Using Semco Sealing Gun No. 250 or equivalent, fill the skin gap between the leading edge and the wing with the sealant prepared in step (6).

NOTE: Blend gap sealant with the wing contour. The sealant shall have continuous contact with the bottom and sides of the skin gap.

(8) Allow sealant to cure in accordance with the manufacturer's instructions.
(9) Using the Pro-Seal 890B mixed in step (6), apply a fillet seal between the fuselage-to-wing fairing and the fuselage. Fillet seal to aerodynamically blend with the fairing. Allow sealant to cure in accordance with the manufacturer's instructions.
(10) Prime and paint as required (refer to Chapter 20).

PLATES/SKIN - DESCRIPTION AND OPERATION

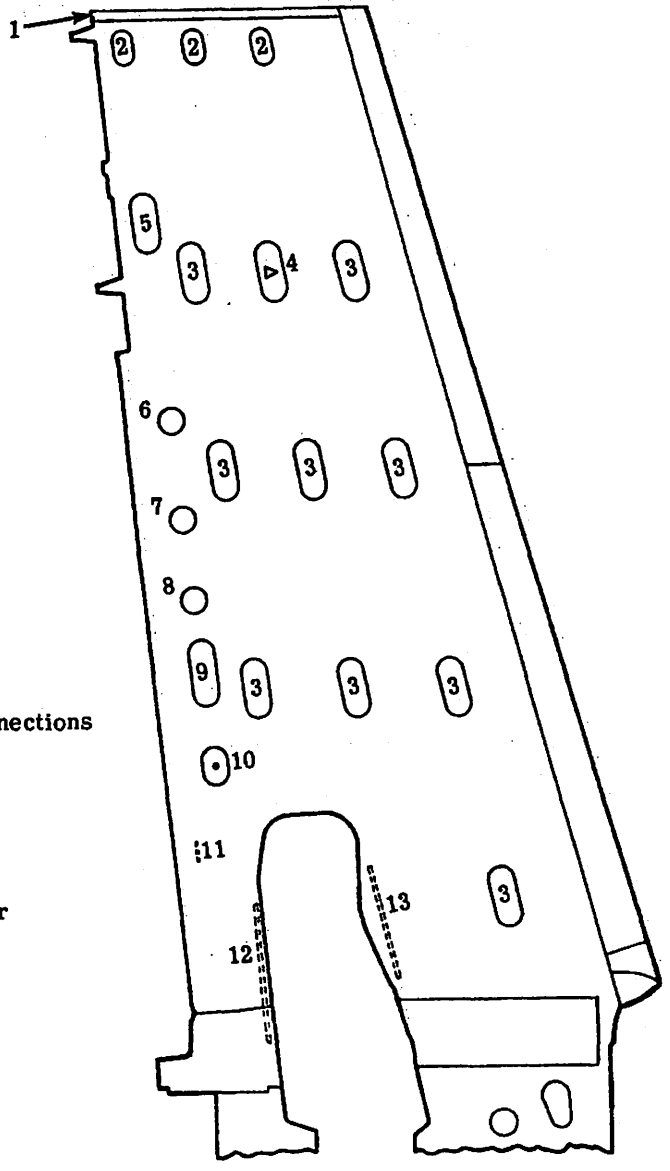
1. Description --

A. The wing structure is covered with a milled aluminum skin. The lower wing skin incorporates access panels which provide access to the fuel vent plumbing, fuel tanks, flight controls, and electrical connections.

B. Whenever a wing fuel or tip tank access cover is removed, special installation procedures are required to provide lightning strike protection.

C. Access straps cover the gap between the wing and the tip tank and provide access to the tip tank attach fittings. The lower access strap on each wing incorporates a scupper at the aft end which provides a cavity drain.

D. When removing access covers, assure that they are reinstalled in the same place from which removed and are properly resealed.



1. Tip Tank Attach Fittings
2. Wing Tip Fuel & Electrical Connections
3. Wing Fuel Tank
4. Fuel Vent Plumbing
5. Aileron Controls and Followups
6. Fuel Probe Connector
7. Wing Access
8. Flap Actuator Attachment
9. Flap Sector and Spoiler Actuator
10. Fuel Vent Lines
11. Main Gear Aft Trunnion Pin
12. Spar #7
13. Spar #5

Wing Access Covers
Figure 1

EFFECTIVITY: ALL

Temporary Revision No. 57-5

MANUAL AFFECTED: 25BCDF Maintenance Manual

FILING INSTRUCTIONS: Insert adjacent to 57-30-01, page 201, dated Jul 5/83 and retain until further notice.

REASON: To revise wing access cover installation and lightening strike seal application.

INSTRUCTIONS: Revise existing procedures to read as follows:

1. LIGHTNING STRIKE AND LEAK PREVENTION SEAL APPLICATION

A. Install Wing Fuel Access Cover (See figure 201.)

(1) Inspect and thoroughly clean wing skin and access cover of all grease and old sealant.

CAUTION: THE MOLD-IN-PLACE SEALANT GASKETS MUST ADHERE TO THE WING SKIN LEDGE. DO NOT APPLY PARTING AGENT TO WING SKIN LEDGE.

(2) Apply parting agent (Hexcel Parting Coat, No. 8300, product of Hexcel Corp. 20701 Nordhoff Street, Chatsworth, CA, 91311) to wing skin access opening and to access cover.

CAUTION: USE SPECIAL CARE WHEN APPLYING SEALANT TO PREVENT AN EXCESS OF SEALANT FROM EXTRUDING INTO THE SURFACE BETWEEN THE ACCESS COVER AND WING SKIN.

(3) Allow parting agent to dry approximately 10 to 15 minutes. Apply an even coat of Pro-Seal 890 (B-1/2) sealant to wing skin ledge.

(4) Temporarily install access cover with 6 screws and 6 AN960JD10L (0.032 inch thick) washers evenly spaced around perimeter of access cover. Tighten screws.

(5) Allow sealant to cure.

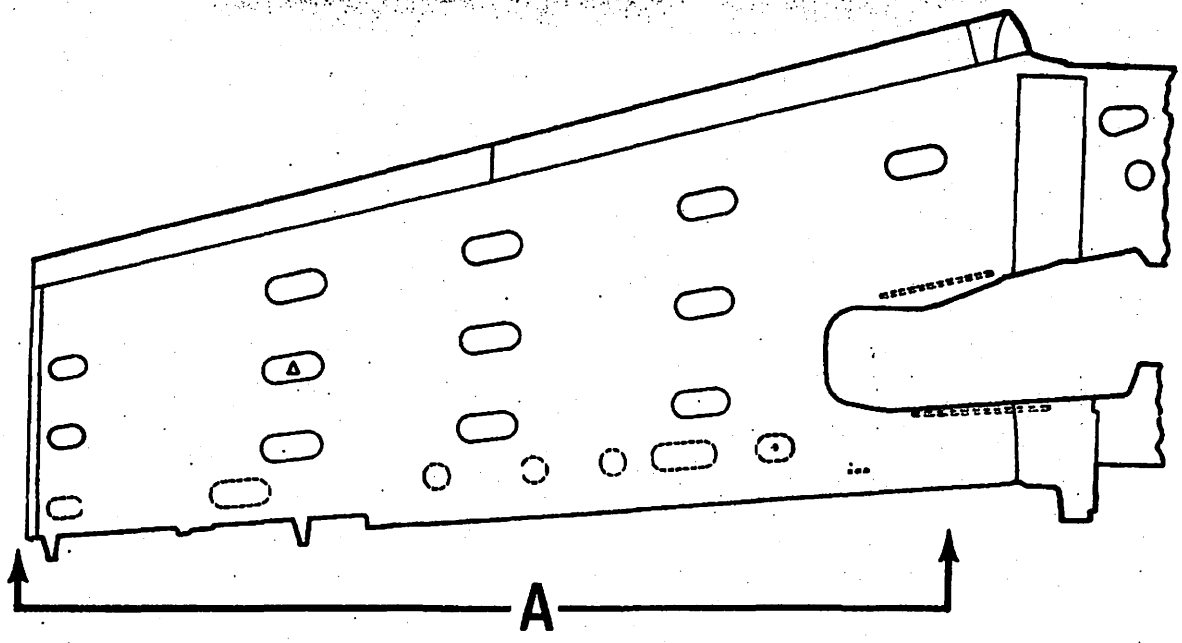
(6) Remove access covers and washers. Clean parting agent from mating surfaces of access cover and wing skin.

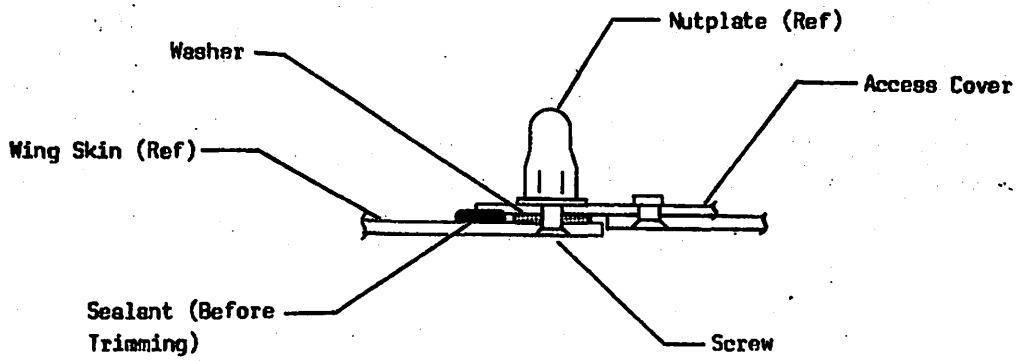
CAUTION: USE EXTREME CARE NOT TO GOUGE ACCESS COVER OR WING SKIN WHEN TRIMMING SEALANT. TOOLS MUST BE FABRICATED FROM PLASTIC OR OTHER SUITABLE MATERIAL.

(7) Carefully trim cured sealant to remove excess extruded material to leave a continuous molded-in-place gasket of sealant approximately 0.25 inch wide on the wing skin ledge opening. (Refer to Detail A.)

CAUTION: THE ANTI-CORROSION GREASE MUST BE INSTALLED TO PROVIDE ADEQUATE LIGHTNING STRIKE PROTECTION.

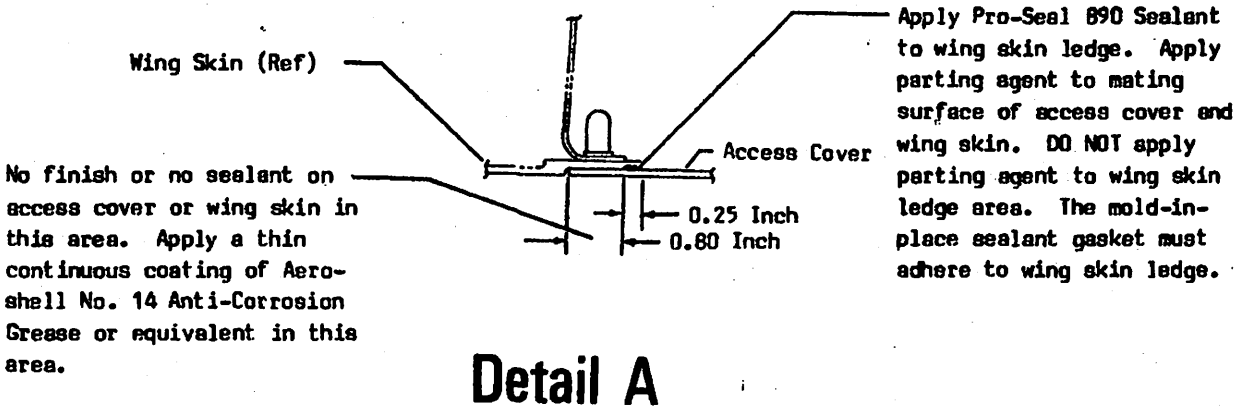
(8) Apply a thin continuous coat of grease (Aeroshell No. 14 anti-corrosion grease or equivalent) around the outer edge of access door or wing skin opening.
(9) Install access panels and secure with attaching screws. Do not use washers for final installation of access covers.





TYPICAL VIEW WITH WASHER INSTALLED

Lightning Strike and Leak Prevention Seal Application
Figure 201 (Sheet 1 of 2)



Detail A

Lightning Strike and Leak Prevention Seal Application
Figure 201 (Sheet 2 of 2)

ACCESS COVERS - MAINTENANCE PRACTICES

1. General
 A. Maintenance practices for the wing fuel and tip tank access covers consist of properly sealing the access covers to provide lightning strike protection.

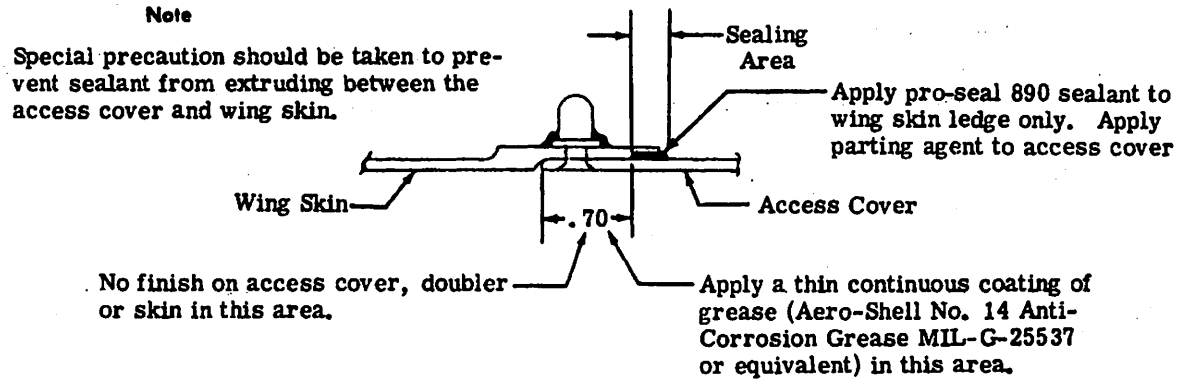
2. Lightning Strike Seal Application
 A. Install Wing Fuel and Tip Tank Access Covers (See figure 201)
 (1) Inspect and thoroughly clean the wing skin and access cover. Remove all grease and old sealant.
 (2) Apply parting agent (MIL-I-7444, vinyl tubing dissolved in four parts of cyclohexanone) to the access cover.

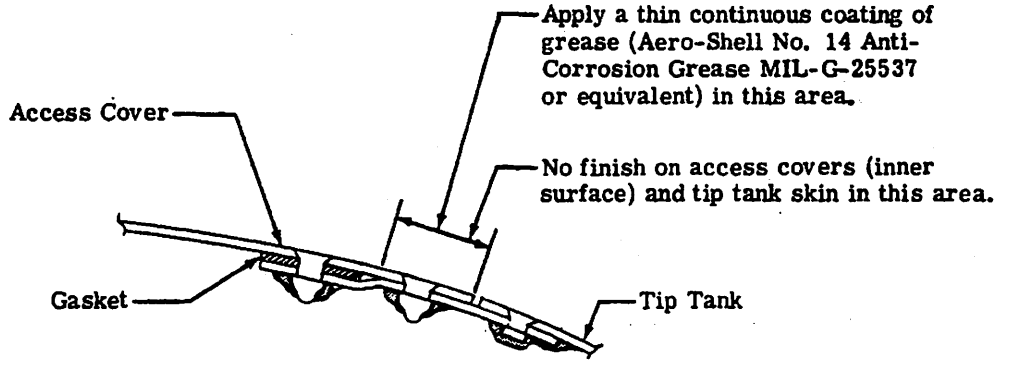
 CAUTION: USE SPECIAL CARE WHEN APPLYING SEALANT TO PREVENT SEALANT FROM EXTRUDING INTO THE SURFACE BETWEEN THE ACCESS COVER AND WING SKIN.

 (3) After allowing the parting agent to dry (approximately 10 to 15 minutes), apply an even coat of Pro-Seal 890 sealant to the wing skin ledge.

 CAUTION: EXCESSIVE GREASE WILL CAUSE THE SEALANT TO BE INEFFECTIVE AND REQUIRE COMPLETE RE-CLEANING AND RESEALING OF THE WING SKIN AND COVER.

 (4) Apply a thin continuous coating of grease (Aeroshell No. 14 Anti-Corrosion Grease or equivalent) around the outer edge of the wing access cover.
 (5) Install access cover.





Lightning Strike Protection Seal Application
Figure 201

ATTACH FITTINGS - DESCRIPTION AND OPERATION

1. Description

A. The wing is attached to the fuselage at eight points. The attach points are located on the left and right wing-fuselage intersections at frames 16, 18, 20, and 21. The attach fittings which are bolted to the wing are forgings containing bushings through which the bolts pass.

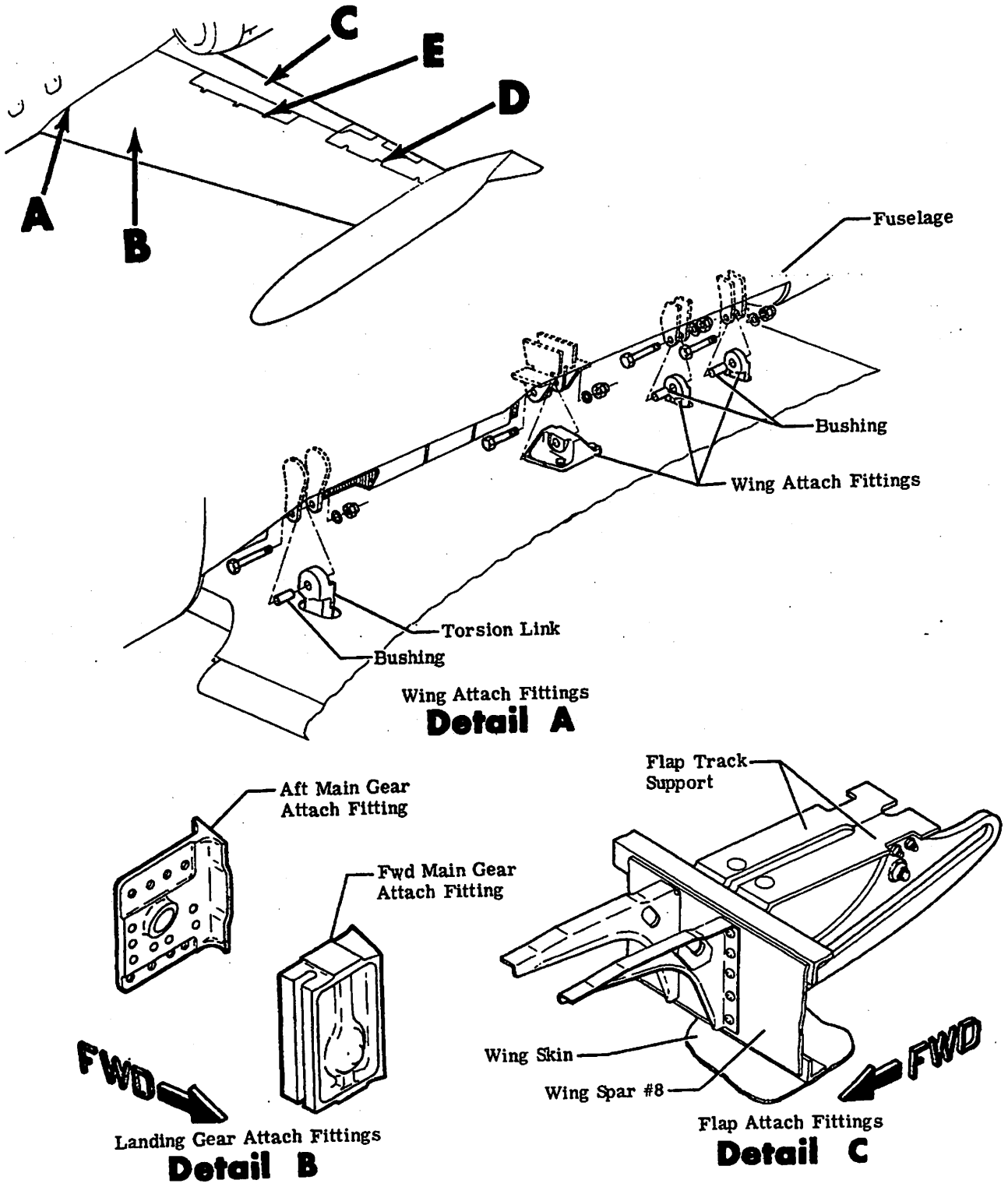
B. The tip tank is attached to the wing at two points, one just aft of spar 1 and one just forward of spar 7. Access to the tip tank attach bolts is through the straps between the wing and tip tank.

C. The ailerons are hinged to wing spar 8 at three points. The bearing support for the aileron drive mechanism is also located on spar 8. Access to the aileron hinge bolts is gained through an access cover on the aileron. The aileron balance tabs are controlled by push pull tubes which are connected to an attach fitting on the aft wing lower skin.

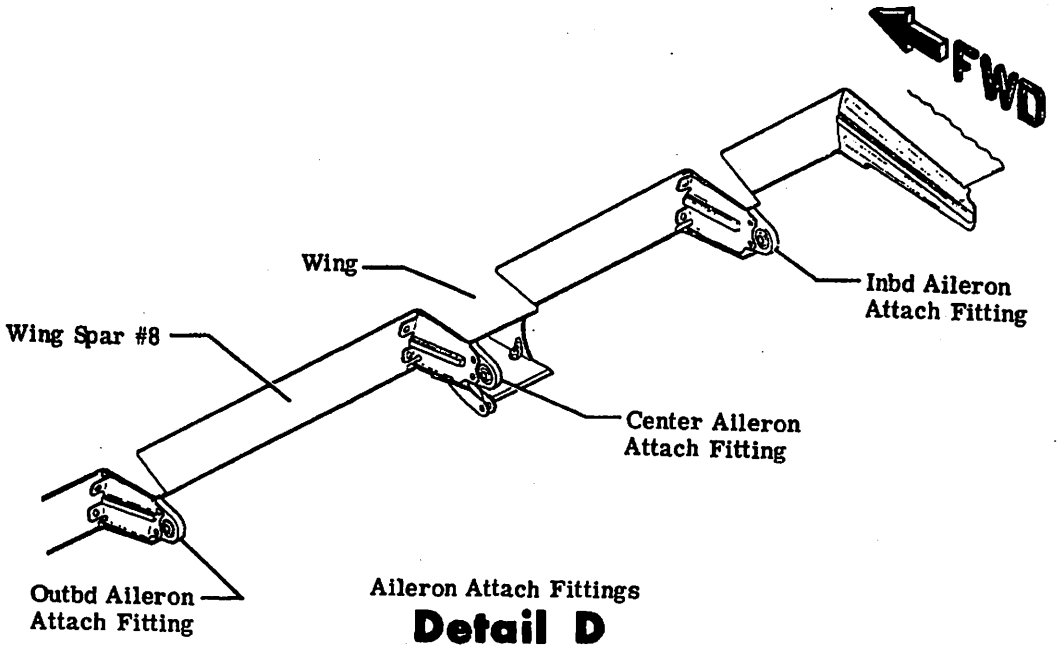
D. The spoilers are hinged to wing spar 8 at two points. The spoiler actuator attach bracket is located on wing spar 7. Access to the spoiler hinge bolts is gained by extending flaps. Access to the spoiler actuator attach bracket is gained through an access cover on the lower wing.

E. The main gear forward and aft trunnion bearings are located in the wing wheel area on spars 7 and 5. The attach pillar for the main gear actuator is located in the wheel well on spar 7.

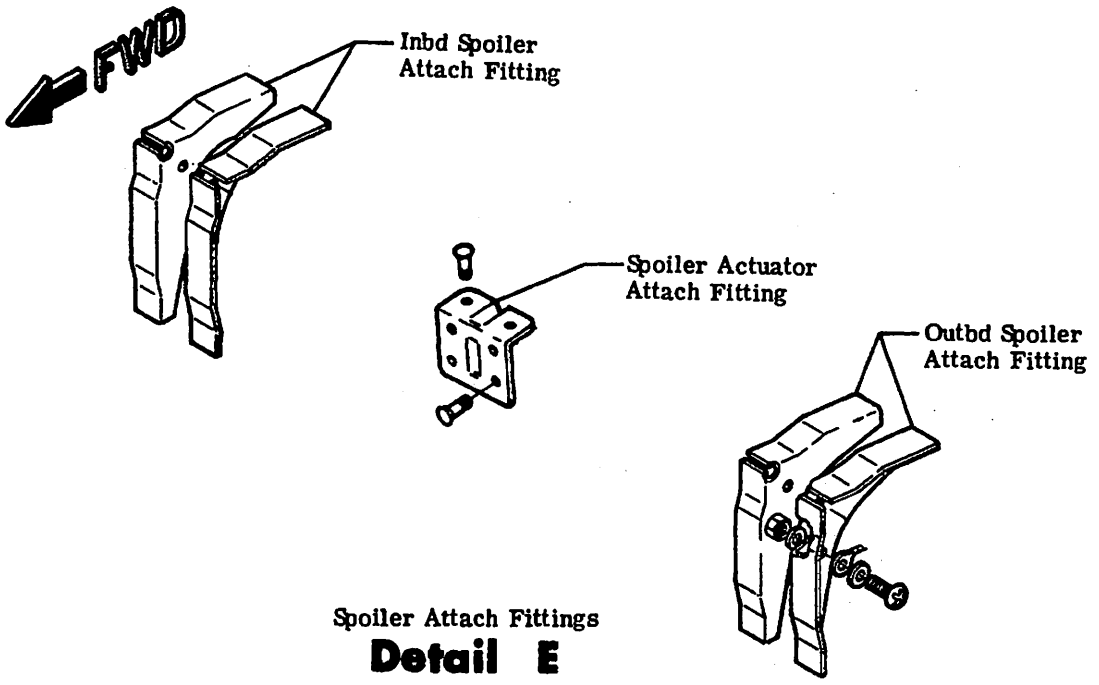
F. The flaps are mounted on a track roller assembly which is attached to wing spar 8. Access to the flap actuator and sector is through an access cover located on the lower surface of the wing.



Wing Attach Fittings
Figure 1 (Sheet 1 of 2)



Aileron Attach Fittings
Detail D



Spoiler Attach Fittings
Detail E

Wing Attach Fittings
Figure 1 (Sheet 2 of 2)